



**Definitive Interconnection
System Impact Study for
Generation Interconnection
Requests
(DISIS-2012-002)**

**January 2013
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Generation Interconnection

Revision History

Date	Author	Change Description
01/31/2013	SPP	Report Issued (DISIS-2012-002)
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Executive Summary

Generation Interconnection customers have requested a Definitive Interconnection System Impact Study (DISIS) under the Generation Interconnection Procedures (GIP) in the Southwest Power Pool Open Access Transmission Tariff (OATT). The Interconnection Customers' requests have been clustered together for the following System Impact Cluster Study window which closed September 30, 2012. The customers will be referred to in this study as the DISIS-2012-002 Interconnection Customers. This System Impact Study analyzes the interconnecting of multiple generation interconnection requests associated with new generation totaling approximately 3,316.8 MW of new generation which would be located within the transmission systems of American Electric Cooperative Corporation (AEPW), Lincoln Electric System (LES), Midwest Energy Inc. (MIDW), Nebraska Public Power District (NPPD), Oklahoma Gas and Electric (OKGE), Sunflower Electric Power Corporation/Mid-Kansas Electric Power LLC (SUNC/MKEC), Southwestern Public Service (SPS), Westar Energy Inc. (WERE), and Western Farmers Electric Cooperative (WFEC). The various generation interconnection requests have differing proposed in-service dates¹. The generation interconnection requests included in this System Impact Cluster Study are listed in Appendix A by their queue number, amount, requested interconnection service, area, requested interconnection point, proposed interconnection point, and the requested in-service date.

Power flow analysis has indicated that for the power flow cases studied, 3,316.8 MW of nameplate generation may be interconnected with transmission system reinforcements within the SPP transmission system. Dynamic stability and power factor analysis has determined the need for reactive compensation in accordance with Order No. 661-A for wind farm interconnection requests and those requirements are listed for each interconnection request within the contents of this report. Dynamic stability analysis has determined that the transmission system will remain stable with the assigned Network Upgrades and necessary reactive compensation requirements.

The total estimated minimum cost for interconnecting the DISIS-2012-002 interconnection customers is \$666,463,000. These costs are shown in Appendix E and F. Interconnection Service to DISIS-2012-002 interconnection customers is also contingent upon higher queued customers paying for certain required network upgrades. **The in-service date for the DISIS customers will be deferred until the construction of these network upgrades can be completed.**

These costs do not include the Interconnection Customer Interconnection Facilities as defined by the SPP Open Access Transmission Tariff (OATT). This cost does not include additional network constraints in the SPP transmission system identified and shown in Appendix H.

¹ The generation interconnection requests in-service dates will need to be deferred based on the required lead time for the Network Upgrades necessary. The Interconnection Customers that proceed to the Facility Study will be provided a new in-service date based on the Facility Study's time for completion of the Network Upgrades necessary.

Network Constraints listed in Appendix H are in the local area of the new generation when this generation is injected throughout the SPP footprint for the Energy Resource (ERIS) Interconnection Request. Certain Interconnection Requests were also studied for Network Resource Interconnection Service (NRIS). Those constraints are also listed in Appendix H. Additional network constraints will have to be verified with a Transmission Service Request (TSR) and associated studies. With a defined source and sink in a TSR, this list of Network Constraints will be refined and expanded to account for all Network Upgrade requirements.

The required interconnection costs listed in Appendix E and F do not include all costs associated with the deliverability of the energy to final customers. These costs are determined by separate studies if the Customer submits a Transmission Service Request through SPP's Open Access Same Time Information System (OASIS) as required by Attachment Z1 of the SPP OATT.

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Introduction

Pursuant to the Southwest Power Pool (SPP) Open Access Transmission Tariff (OATT), SPP has conducted this Definitive Interconnection System Impact Study (DISIS) for certain generation interconnection requests in the SPP Generation Interconnection Queue. These interconnection requests have been clustered together for the following System Impact Study window which closed September 30, 2012. The customers will be referred to in this study as the DISIS-2012-002 Interconnection Customers. This System Impact Study analyzes the interconnecting of multiple generation interconnection requests associated with new generation totaling 3,316.8 MW of new generation which would be located within the transmission systems of American Electric Cooperative Corporation (AEPW), Lincoln Electric System (LES), Midwest Energy Inc. (MIDW), Nebraska Public Power District (NPPD), Oklahoma Gas and Electric (OKGE), Sunflower Electric Power Corporation/Mid-Kansas Electric Power LLC (SUNC/MKEC), Southwestern Public Service (SPS), Westar Energy Inc. (WERE), and Western Farmers Electric Cooperative (WFEC). The various generation interconnection requests have differing proposed in-service dates². The generation interconnection requests included in this System Impact Study are listed in Appendix A by their queue number, amount, requested interconnection service, area, requested interconnection point, proposed interconnection point, and the requested in-service date.

The primary objective of this Definitive Interconnection System Impact Study is to identify the system constraints associated with connecting the generation to the area transmission system. The Impact and other subsequent Interconnection Studies are designed to identify attachment facilities, Network Upgrades and other Direct Assignment Facilities needed to accept power into the grid at each specific interconnection receipt point.

² The generation interconnection requests in-service dates will need to be deferred based on the required lead time for the Network Upgrades necessary. The Interconnection Customers that proceed to the Facility Study will be provided a new in-service date based on the competition of the Facility Study.

Model Development

Interconnection Requests Included in the Cluster

SPP has included all interconnection requests that submitted a Definitive Interconnection System Impact Study Agreement no later than September 30, 2012 and were subsequently accepted by Southwest Power Pool under the terms of the Generator Interconnection Procedures (GIP). The interconnection requests that are included in this study are listed in Appendix A.

Affected System Interconnection Request

Also included in this Definitive Impact Study is a single Affected System Study, located on the Farmers Electric Cooperative, Inc. (FEC) system, which shares connections to the SPS system. The Affected System Study Requests has been given the designations: ASGI-2012-002 (18 MW, POI is FEC-Clovis Interchange 115kV).

Previously Queued Interconnection Requests

The previous queued requests included in this study are listed in Appendix B. In addition to the Base Case Upgrades, the previous queued requests and associated upgrades were assumed to be in-service and added to the Base Case models. These projects were dispatched as Energy Resources with equal distribution across the SPP footprint. Prior queued projects that requested Network Resource Interconnection Service (NRIS) were dispatched in an additional analysis into the balancing authority of the interconnecting transmission owner.

Development of Base Cases

Power Flow

The 2012 series Transmission Service Request (TSR) Models 2013 spring, 2014 summer and winter peak, and the 2018 summer and winter peak, and 2023 summer peak scenario 0 cases were used for this study. After the cases were developed, each of the control areas' resources were then re-dispatched to account for the new generation requests using current dispatch orders.

Dynamic Stability

The 2012 series SPP Model Development Working Group (MDWG) Models 2013 winter and 2014 summer were used as starting points for this study.

Base Case Upgrades

The following facilities are part of the SPP Transmission Expansion Plan, the Balanced Portfolio or recently approved Priority Projects. These facilities have an approved Notice to Construct (NTC) or are in construction stages and were assumed to be in-service at the time of dispatch and added to the base case models. The DISIS-2012-002 Interconnection Customers have not been assigned acceleration costs for the below listed projects. The DISIS-2012-002 Interconnection Customers Generation Facilities in service dates may need to be delayed until the completion of the following

upgrades. If for some reason, construction on these projects is discontinued, additional restudies will be needed to determine the interconnection needs of the DISIS Interconnection Customers.

- Hitchland 230/115kV area projects³:
 - Hitchland – Ochiltree 230kV Project, scheduled for 2/1/2013 in-service
- Balanced Portfolio Projects⁴:
 - Woodward – Border – TUCO 345kV project, scheduled for 5/19/2014 in-service
 - Woodward 345/138kV circuit #2 autotransformer
 - TUCO 345/138kV circuit #2 autotransformer
 - Reactors at Woodward and Border
 - Iatan– Nashua 345kV, scheduled for 6/1/2015 in-service
 - Nashua 345/161kV autotransformer
 - Muskogee– Seminole 345kV, scheduled for 12/31/2013 in-service
 - Cleveland – Sooner 345kV, scheduled for 12/31/2012 in-service
 - Tap Stillwell – Swissvale 345kV line at West Gardner, scheduled for 12/31/2012 in-service
- Priority Projects⁵:
 - Hitchland – Woodward double circuit 345kV, scheduled for 6/30/2014 in-service
 - Hitchland 345/230kV circuit #2 autotransformer
 - Woodward – Thistle double circuit 345kV, scheduled for 12/31/2014 in-service
 - Spearville – Clark double circuit 345kV, scheduled for 12/31/2014 in-service
 - Clark – Thistle double circuit 345kV, scheduled for 12/31/2014 in-service
 - Thistle – Wichita double circuit 345kV, scheduled for 12/31/2014 in-service
 - Thistle 345/138kV autotransformer, scheduled for 12/31/2014 in-service
 - Thistle – Flat Ridge 138kV, scheduled for 12/31/2014 in-service
- Various MKEC Transmission System Upgrades⁶
 - Harper – Flat Ridge 138kV rebuild, scheduled for 6/15/2013 in-service
 - Flat Ridge – Medicine Lodge 138kV rebuild, scheduled for 12/31/2013 in-service
 - Pratt – Medicine Lodge 115kV rebuild, scheduled for 6/15/2014 in-service
 - Medicine Lodge 138/115kV autotransformer replacement, scheduled for 6/1/2013 in-service
- Northwest 345/138/13.8kV circuit #3 autotransformer, scheduled for 6/1/2017 in-service⁷
- Woodward (OKGE) – Woodward (WFEC) 69kV rebuild, scheduled for 12/1/2013 in-service⁸
- Sheldon – SW7th and Pleasant Hill 115kV circuit #2 rebuild, scheduled for 5/15/2013 in-service⁹

³ SPP Regional Reliability Projects identified in 2007 STEP. As of the writing of this report, SPP Project Tracking TAGIT shows some of these project's in-service dates have been delayed from the original 2010/2011 in-service dates.

⁴ Notice to Construct (NTC) issued June 2009.

⁵ Notice to Construct (NTC) issued June 2010.

⁶ SPP Transmission Service Projects identified in SPP-2007-AG3-AFS-9.

⁷ SPP Transmission Service Project identified in SPP-2009-AG2-AFS6. Per SPP-NTC-20137.

⁸ SPP Regional Reliability Project. Per SPP-NTC-20003.

⁹ SPP Regional Reliability 2012 ITPNT Project. Per SPP-NTC-200171.

- Moundridge 138/115/13.8kV autotransformer circuit #2, scheduled for 12/1/2014 in-service¹⁰

Contingent Upgrades

The following facilities do not yet have approval. These facilities have been assigned to higher queued interconnection customers. These facilities have been included in the models for the DISIS-2012-002 study and are assumed to be in service. This list may not be all inclusive. The DISIS-2012-002 Interconnection Customers at this time do not have responsibility for these facilities but may later be assigned the cost of these facilities if higher queued customers terminate their GIA or withdraw from the interconnection queue. The DISIS-2012-002 Interconnection Customer Generation Facilities in service dates may need to be delayed until the completion of the following upgrades.

- Upgrades assigned to ICS-2008-001 Interconnection Customers
 - Line Traps at Amarillo South – Swisher 230kV
 - Finney-Holcomb 345kV circuit #2
- Upgrades assigned to DISIS-2009-001 Interconnection Customers:
 - Fort Dodge – North Fort Dodge – Spearville 115kV circuit #2
 - Albion – Petersburg – Neligh 115kV circuit #1 rerate (placed In-Service in 2011)
 - Fort Randall – Madison County – Kelly 230kV circuit #1 rerate (320MVA)
 - Spearville 345/115kV autotransformer circuit #1
- Upgrades assigned to DISIS-2010-001 Interconnection Customers:
 - Post Rock 345/230kV circuit #2 autotransformer
 - South Hays – Hays Plant – Vine Street 115kV circuit #1 rebuild
 - Switch 2749 – Wildorado 69kV circuit # 1 rebuild
 - Washita – Gracemont 138kV circuit #2 (placed In-Service in 2012)
- Upgrades assigned to DISIS-2010-002 Interconnection Customers:
 - Twin Church – Dixon County 230kV circuit #1 rerate (320MVA)
- Upgrades assigned to DISIS-2011-001 Interconnection Customers:
 - Beaver County – Buckner 345kV circuit #1 build
 - Beaver County 345kV Expansion (Tap & Tie Hitchland – Woodward circuit #2 into Beaver County 345kV)
 - Spearville – Mullergren – Reno double circuit 345kV build
 - Tatonga – Matthewson - Cimarron 345kV circuit #2 build
 - Tatonga terminal equipment upgrade (1792 MVA)
 - Rice County – Circle 230kV conversion
 - Rice County – Lyons 115kV rebuild
 - Rice County 230/115kV autotransformer
 - Lyons – Wheatland 115kV rerate (199 MVA)
 - Hoskins – Dixon County – Twin Church 230kV circuit #1 rerate
 - (NRIS only) Spearville – Mullergren 230kV circuit #1 rebuild

¹⁰ SPP Regional Reliability 2012 ITP10 Project. Per SPP-NTC-200181.

- (NRIS only) Benton – Wichita 345kV circuit #1 rerate (1195MVA)
- (NRIS only) FPL Switch – Woodward - Mooreland 138kV circuit #1 rebuild
- (NRIS only) Glass Mountain – Mooreland 138kV rebuild
- (NRIS only) Woodward – Woodward EHV 138kV rebuild
- (NRIS only) Woodward 138/69kV auto replacement
- (NRIS only) Woodward (OGE) – Woodward (WFEC) 69kV rebuild
- Upgrades assigned to DISIS-2011-002 interconnection Customers:
 - Amoco Wasson – Oxy Tap – Yoakum 230kV circuit #1 – replace line traps
 - Harbine – Crete 115kV circuit #1 build
 - Jones – Lubbock South 230kV circuit #2 - replace line traps
 - Power System Stabilizers - Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)
 - Mustang – Yoakum 230kV circuit #1 replace line traps
 - SUB 967 - SUB 968 69kV circuit #1 replace terminal equipment
 - (NRIS only) Allen – Lubbock South 115kV circuit #1 rebuild
 - (NRIS only) Hydro Carbon Tap - Sub974 69kV circuit #1 rewire CT
 - (NRIS only) Lubbock South 230/115kV Autotransformer build circuit #2
 - (NRIS only) Nebraska City U Syracuse – SUB 970 circuit #1 replace terminal equipment
 - (NRIS only) Benton – Wichita 345kV circuit #1 rerate (1195MVA)
 - (NRIS only) Chisolm – Maize – Evans Energy Center 138kV circuit #1 rebuild
 - (NRIS only) Duncan-Tosco 69kV rebuild
 - (NRIS only) Comanche Tap-Tosco 69kV rebuild
 - (NRIS only) Cimarron 345/138kV autotransformer #3
 - (NRIS only) Evans North – Maize
 - (NRIS only) Yoakum 230/115kV transformer #2
- Upgrades assigned to DISIS-2012-001 interconnection Customers:
 - Holcomb 345/115/13.8kV Transformer circuit #2 build
 - Denver North – Mustang 115kV circuit #1 rebuild
 - Denver South – Mustang 115kV circuit#1 rebuild

Potential Upgrades Not in the Base Case

Any potential upgrades that do not have a Notification to Construct (NTC) and not explicitly listed within this report have not been included in the base case. These upgrades include any identified in the SPP Extra-High Voltage (EHV) overlay plan, or any other SPP planning study other than the upgrades listed above in the previous section.

Regional Groupings

The interconnection requests listed in Appendix A were grouped together in fifteen different regional groups based on geographical and electrical impacts. These groupings are shown in Appendix C.

To determine interconnection impacts, fifteen different generation dispatch scenarios of the spring base case models were developed to accommodate the regional groupings.

Power Flow

For each group, the various wind generating plants were modeled at 100% nameplate of maximum generation. The other wind generating plants in each area were modeled at 80% nameplate while the wind generating plants in the other areas were modeled at 20% nameplate of maximum generation. These projects were dispatched as Energy Resources with equal distribution across the SPP footprint. Certain projects that requested Network Resource Interconnection Service were dispatched in an additional analysis into the balancing authority of the interconnecting transmission owner. This method allowed for the identification of network constraints that were common to the regional groupings that could then in turn have the mitigating upgrade cost allocated throughout the entire cluster. Other sensitivity analyses are also performed with all interconnection requests in each group being dispatched at 100% nameplate.

Peaking units were not dispatched in the 2013 spring model. To study peaking units' impacts, the 2014 summer and winter and 2018 summer and winter, and 2023 summer seasonal models were chosen and peaking units were modeled at 100% of the nameplate rating and wind generating facilities were modeled at 10% of the nameplate rating. Each interconnection request was also modeled separately at 100% nameplate for certain analyses.

Dynamic Stability

For each group, all interconnection requests were studied at 100% nameplate output while the other groups were dispatched at 20% output for wind requests and 100% output for thermal requests.

Identification of Network Constraints

The initial set of network constraints were found by using PTI MUST First Contingency Incremental Transfer Capability (FCITC) analysis on the entire cluster grouping dispatched at the various levels mentioned above. These constraints were then screened to determine if any of the generation interconnection requests had at least a 20% Distribution Factor (DF) upon the constraint. Constraints that measured at least a 20% DF from at least one interconnection request were considered for mitigation. Interconnection Requests that have requested Network Resource Interconnection Service (NRIS) were also studied in the NRIS analysis to determine if any constraint had at least a 3% DF. If so, these constraints were considered for mitigation.

Determination of Cost Allocated Network Upgrades

Cost Allocated Network Upgrades of wind generation interconnection requests were determined using the 2013 spring model. Cost Allocated Network Upgrades of peaking units was determined using the 2018 summer peak model. A MUST sensitivity analysis was performed to determine the Distribution Factors (DF), a distribution factor with no contingency that each generation interconnection request had on each new upgrade. The impact each generation interconnection request had on each upgrade project was weighted by the size of each request. Finally the costs due by each request for a particular project were then determined by allocating the portion of each request's impact over the impact of all affecting requests.

For example, assume that there are three Generation Interconnection requests, X, Y, and Z that are responsible for the costs of Upgrade Project '1'. Given that their respective PTDF for the project have been determined, the cost allocation for Generation Interconnection request 'X' for Upgrade Project 1 is found by the following set of steps and formulas:

- Determine an Impact Factor on a given project for all responsible GI requests:

$$\text{Request X Impact Factor on Upgrade Project 1} = \text{PTDF}(\%)(X) * \text{MW}(X) = X1$$

$$\text{Request Y Impact Factor on Upgrade Project 1} = \text{PTDF}(\%)(Y) * \text{MW}(Y) = Y1$$

$$\text{Request Z Impact Factor on Upgrade Project 1} = \text{PTDF}(\%)(Z) * \text{MW}(Z) = Z1$$

- Determine each request's Allocation of Cost for that particular project:

$$\text{Request X's Project 1 Cost Allocation (\$)} = \frac{\text{Network Upgrade Project 1 Cost(\$)} * X1}{X1 + Y1 + Z1}$$

- Repeat previous for each responsible GI request for each Project

The cost allocation of each needed Network Upgrade is determined by the size of each request and its impact on the given project. This allows for the most efficient and reasonable mechanism for sharing the costs of upgrades.

Credits for Amounts Advanced for Network Upgrades

Interconnection Customer shall be entitled to credits in accordance with Attachment Z2 of the SPP Tariff for any Network Upgrades including any tax gross-up or any other tax-related payments associated with the Network Upgrades, and not refunded to the Interconnection Customer.

Required Interconnection Facilities

The requirement to interconnect the 3,316.8 MW of generation into the existing and proposed transmission systems in the affected areas of the SPP transmission footprint consist of the necessary cost allocated shared facilities listed in Appendix F by upgrade. The interconnection requirements for the cluster total \$666,463,000. Interconnection Facilities specific to each generation interconnection request are listed in Appendix E. A preliminary one-line drawing for each generation interconnection request are listed in Appendix D.

A list of constraints that were identified and used for mitigation are listed in Appendix G. Listed within Appendix G are the ERIS constraints with greater than or equal to a 20% DF, as well as, the NRIS constraints that have a DF of 3% or greater. Other Network Constraints which are not requiring mitigation are shown in Appendix H. With a defined source and sink in a TSR, this list of Network Constraints will be refined and expanded to account for all Network Upgrade requirements. Additional constraints identified by NERC category “C” contingencies are listed in Appendix P.

Power Flow Analysis

Power Flow Analysis Methodology

The ACCC function of PSS/E was used to simulate single element and special (i.e., breaker-to-breaker, multi-element, etc) contingencies in portions or all of the modeled control areas of SPP, as well as, other control areas external to SPP and the resulting scenarios analyzed. NERC Category “B” and “C” contingencies were evaluated.

Power Flow Analysis

A power flow analysis was conducted for each Interconnection Customer’s facility using modified versions of the 2013 spring peak, 2014 summer and winter peak, and the 2018 summer and winter peak, 2023 summer peak models. The output of the Interconnection Customer’s facility was offset in each model by a reduction in output of existing online SPP generation. This method allows the request to be studied as an Energy Resource (ER) Interconnection Request. Certain requests that are pursuing Network Resource Interconnection Service (NRIS) had an additional analysis conducted for displacing resources in the interconnecting Transmission Owner’s balancing authority.

This analysis was conducted assuming that previous queued requests in the immediate area of these interconnect requests were in-service. The analysis of each Customer’s project indicates that criteria violations will occur on the MIDW, SPS, SUNC, and WERE transmission systems under system intact and contingency conditions in the peak seasons.

Cluster Group 1 (Woodward Area)

In addition to the 4,953.8 MW of previously queued generation in the area, 512.1 MW of new interconnection service was studied. No new ERIS constraints for mitigation were found in this area. For interconnection requests with NRIS, the following issues were observed. For NRIS overloads in the Mooreland and Woodward area, it was determined to mitigate these constraints with the Woodward-Tatonga 345kV circuit #2 project that is also assigned to Group 3. For NRIS overloads in the Cimarron area, SPP will coordinate with OG&E for a more comprehensive mitigation in the Facility Study.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
BENTON - WICHITA 345KV CKT 1	932	103.8461	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
CIMARRON - DRAPER LAKE 345KV CKT 1	717	119.1013	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
CIMARRON - DRAPER LAKE 345KV CKT 1	717	119.0787	ARCADIA - NORTHWEST 345KV CKT 1
CIMARRON - DRAPER LAKE 345KV CKT 1	717	116.7212	ARCADIA - SEMINOLE 345KV CKT 1
CIMARRON - DRAPER LAKE 345KV CKT 1	717	115.5803	CLEVELAND - SOONER 345KV CKT 1
WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	106.5163	BENTON - WICHITA 345KV CKT 1
CIMARRON - HAYMAKER 138KV CKT 1	308	100.0985	CIMARRON - CZECH HALL 138KV CKT 1
CIMARRON - SARA 138KV CKT 1	382	105.8681	CIMARRON - DRAPER LAKE 345KV CKT 1

Cluster Group 2 (Hitchland Area)

In addition to the 3,180.2 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied. No new constraints were found in this area.

Cluster Group 3 (Spearville Area)

In addition to the 5,564.0 MW of previously queued generation in the area, 400.0 MW of new interconnection service was studied. Possible voltage collapse was identified in the Spearville area around Clark County and Thistle. After testing Static Var Compensator (SVC) options at Clark County and Thistle, it was determined that the best option for maintaining voltages throughout the entire area was to accelerate the Woodward-Tatonga 345kV circuit #2 project that has an in service date of 2021. Interconnection Customers will be assigned acceleration costs to meet their in service dates.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
Non-Converged Contingency	1792	-	G12-11T 345.00 - POST ROCK 345KV CKT 1
BENTON - WICHITA 345KV CKT 1	932	103.8461	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
BENTON - WICHITA 345KV CKT 1	932	101.7038	HUNTERS7 345.00 - WOODRING 345KV CKT 1
MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	106.5281	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	104.6774	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1

Cluster Group 4 (NW Kansas Group)

In addition to the 2,289.3 MW of previously queued generation in the area, 100.0 MW of new interconnection service was studied. No new constraints were found in this area.

Cluster Group 5 (Amarillo Area)

In addition to the 1,572.6 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied. No new constraints were found in this area.

Cluster Group 6 (South Texas Panhandle/New Mexico)

In addition to the 2,591.5 MW of previously queued generation in the area, 947.27 MW of new interconnection service was studied. For the large amounts of generation that are requested for interconnection in this cluster, new 345kV reinforcements were identified for N-1 conditions for loss of the GEN-2012-038 interconnection request tap to the Border 345kV substation. To mitigate this constraint, a new 345kV line from GEN-2012-038 to Sweetwater to Gracemont was identified. Also thermal overloads are seen on the TUCO Interchange 345/230/13kV Transformer circuit #1 and #2 during N-1 contingency. To mitigate this constraint, a 3rd TUCO Interchange 345/230/23kV Transformer will be needed. Since the TUCO Substation is at full land capacity, an adjacent substation may be needed to house the new transformer.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	120.0953	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	118.9784	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1

Cluster Group 7 (Southwestern Oklahoma)

In addition to the 1,926.0 MW of previously queued generation in the area, 175.1 MW of new interconnection service was studied. Constraints for mitigation in this area include replacing CT on Lake Creek-Lone Wolf 69kV, rebuilding the 138kV line from the GEN-2012-029 tap to Hobart Jct 138kV, and rebuilding Hobart Jct-Carnegie – Southwest Station 138kV.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
LAKE CREEK - LONEWOLF 69KV CKT 1	48	124.1285	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	100.6593	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	103.4027	STLN-DEMARC6 - SWEETWATER 230KV CKT 1
G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	103.3949	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	101.6113	STLN-DEMARC6 - SWEETWATER 230KV CKT 1
G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	101.603	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	101.5439	GEN560290 1-G08-23 0.5750
CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	101.1177	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	102.9289	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	100	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1

Cluster Group 8 (South Central Kansas/North Oklahoma)

In addition to the 1,986.3 MW of previously queued generation in the area, 862.5 MW of new interconnection service was studied. Constraints on Benton-Wichita 345kV were observed as well as 138kV overloads in the area of Shidler for GEN-2012-027. For the Shilder – Fairfax Tap – Webb City 138kV line, the Facility Study will address thermal overloads and whether those overloads can be mitigated with structure raising or whether a complete rebuild is required. Further coordination with AEP will occur in the Facility Study. Additionally, the Remington-Fairfax line overloads on the AECI/KAMO system. SPP will coordinate with AECI during the Facility Study to ascertain costs to change the design parameters of this line to 100 degrees C ambient temperature. Additionally, AECI will be notified as an Affected System for this Interconnection Request and will be asked to evaluate its impacts on the AECI transmission system.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
BENTON - WICHITA 345KV CKT 1	932	107.9265	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
HUNTERS7 345.00 - WOODRING 345KV CKT 1	956	104.0477	VIOLA 7 345.00 - WICHITA 345KV CKT 1
4REMINGTON 138.00 - FAIRFAX 138KV CKT 1	174	109.645	SHIDLER - WEST PAWHUSKA 138KV CKT 1
4REMINGTON 138.00 - FAIRFAX 138KV CKT 1	174	109.2957	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
'FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1'	152	102.3878	'4REMINGTON 138.00 - FAIRFAX 138KV CKT 1'
'FAIRFAX TAP - SHIDLER 138KV CKT 1'	152	102.4094	'4REMINGTON 138.00 - FAIRFAX 138KV CKT 1'
CIMARRON - DRAPER LAKE 345KV CKT 1	717	119.1013	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
CIMARRON - DRAPER LAKE 345KV CKT 1	717	119.0787	ARCADIA - NORTHWEST 345KV CKT 1

Cluster Group 9/10 (Nebraska)

In addition to the 1,828.6 MW of previously queued generation in the area, 319.8 MW of new interconnection service was studied. An additional 200 MW of requested generation on the Twin Church – Hoskins 230kV line will cause the need for additional 230kV transmission reinforcements in this area. To mitigate this constraint, a new 230kV line to the Western Area Power Administration (WAPA) is proposed. Further coordination with WAPA will occur in the Facility Study.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
G10-51T 230.00 - HOSKINS 230KV CKT 1	192	215.308	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	157.4083	G10-51T 230.00 - HOSKINS 230KV CKT 1
HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	101.4047	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
SIOUX CITY - TWIN CHURCH 230KV CKT 1	320	109.7188	G10-51T 230.00 - HOSKINS 230KV CKT 1

Cluster Group 12 (Northwest Arkansas)

There were no new interconnection service was studied. No new constraints were found in this area.

Cluster Group 13 (Northwest Missouri)

In addition to the 585.6 MW of previously queued generation in the area, 0 MW of new interconnection service was studied. No new constraints were found in this area.

Cluster Group 14 (South Central Oklahoma)

In addition to the 462.2 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied. No new ERIS constraints were found in this area.

Stability Analysis

A stability analysis was conducted for each Interconnection Customer’s facility using modified versions of the MDWG 2014 summer and 2013 winter peak dynamic cases. The MDWT 2013 winter peak case was modified to model the transmission network as of the end of 2014 and was used as the 2014 winter peak model for this study. The stability analysis was conducted with all upgrades in service that were identified in the power flow analysis. For each group, the interconnection requests were studied at 100% nameplate output while the other groups were dispatched at 20% output for wind requests and 100% output for fossil requests. The output of the Interconnection Customer’s facility was offset in each model by a reduction in output of existing online SPP generation. The following synopsis is included for each group. The entire stability study for each group can be found in the Appendices section.

Cluster Group 1 (Woodward Area)

The Group 1 stability analysis for this study was performed by Quanta Technology (Quanta). GEN-2012-016 was found to contribute to potential instability noticed in the Group 3 project study. GEN-2012-016 is therefore assigned cost responsibility with the Woodward-Tatonga 345kV 2nd circuit line. Stability analysis has determined that when all previously assigned and currently assigned network upgrades are placed in service the transmission system will remain stable and low voltage ride through requirements are satisfied for the contingencies studied.

With the power factor requirements and all network upgrades in service, all interconnection requests in Group 1 will meet FERC Order #661A low voltage ride through (LVRT) requirements.

Power Factor Requirements:

Request	Size (MW)	Generator Model	Point of Interconnection	Power Factor Requirement at POI	
				Lagging (supplying)	Leading (absorbing)
GEN-2012-016	280 Summer/ 312 Winter	GENROU	Woodward-Thistle 345kV	0.95	0.95
GEN-2012-031	200.1	Siemens 2.3MW	Cimarron 345kV	0.95	0.95

*As reactive power is required for all projects, the final requirement in the GIA will be the pro-forma 95% lagging to 95% leading at the point of interconnection.

Cluster Group 2 (Hitchland Area)

There was no stability analysis conducted in the Hitchland area due to no requests in the area.

Cluster Group 3 (Spearville Area)

The Group 3 stability analysis for this study was performed by Mitsubishi Electric Power Products, Inc (MEPPI). Stability analysis has determined that Group 3 projects require the addition of a second 345 kV line between Woodward and Tatonga 345kV in northwest Oklahoma. Large flows on the double 345kV system in Kansas resulted in large flows on the single Woodward-Tatonga 345kV line in the Group 3 scenario. With the addition of the second line between Woodward and

Tatonga and with the addition of previously assigned network upgrades, the 400MW of new generation interconnection requests can be accommodated. Once the previously assigned upgrades are placed in service the transmission system will remain stable and low voltage ride through requirements are satisfied for the contingencies studied.

With the power factor requirements and all network upgrades in service, all interconnection requests in Group 3 will meet FERC Order #661A low voltage ride through (LVRT) requirements.

Power Factor Requirements:

Request	Size (MW)	Generator Model	Point of Interconnection	Power Factor Requirement at POI	
				Lagging (supplying)	Leading (absorbing)
GEN-2012-024	180	Vestas V112-3.0MW	Clark County	0.95	0.95
GEN-2012-042	176 Summer/220 Winter	GENSAL	Spearville 345kV	0.95	0.95

*As reactive power is required for all projects, the final requirement in the GIA will be the pro-forma 95% lagging to 95% leading at the point of interconnection.

Cluster Group 4 (Mingo Area)

The Group 4 stability analysis for this study was performed by Quanta Technology (Quanta). Stability analysis has determined that the 100 MW of new generation interconnection request produces an oscillatory response to faults on the Colby 115kV bus (3 phase faults with reclosing on the Colby-Atwood 115kV line and the Colby-Seguin Tap 115kV line) in the winter peak case. The oscillations do not occur for either fault when reclosing is disabled. The summer peak case showed no oscillatory tendencies for the same faults. This will be further analyzed during the facility study.

With the power factor requirements and all network upgrades in service, all interconnection requests in Group 4 will meet FERC Order #661A low voltage ride through (LVRT) requirements.

Power Factor Requirements:

Request	Size (MW)	Generator Model	Point of Interconnection	Power Factor Requirement at POI	
				Lagging (supplying)	Leading (absorbing)
GEN-2012-026	80 Summer/100 Winter	GENSAL	Colby 115kV	0.95	0.95

*As reactive power is required for all projects, the final requirement in the GIA will be the pro-forma 95% lagging to 95% leading at the point of interconnection.

Cluster Group 5 (Amarillo Area)

There was no stability analysis conducted in the Amarillo area due to no requests in the area.

Cluster Group 6 (South Texas Panhandle/New Mexico)

The Group 6 stability analysis for this study was performed by Excel Engineering (“Excel”). Stability analysis has determined that a new 345kV line connecting the Tuco area to western Oklahoma is required to interconnect the studied generation. A new 345kV line from the GEN-2012-038 345kV substation to a proposed 345kV substation near Sweetwater, Oklahoma will be required. In addition, the proposed 345kV line from Elk City, Oklahoma to the Gracemont substation will need to be advanced to meet the in service dates of the requested generation.

With the power factor requirements and all network upgrades in service, the transmission system will remain stable and all interconnection requests in Group 6 will meet FERC Order #661A low voltage ride through (LVRT) requirements.

Power Factor Requirements:

Request	Size (MW)	Generator Model	Point of Interconnection	Power Factor Requirement at POI	
				Lagging (supplying)	Leading (absorbing)
ASGI-2012-002	18	Vestas V82	Clovis 115kV	0.95	0.95
GEN-2012-015	25	AE Solaron 500kW Inverter	Norton 115kV	0.95	0.95
GEN-2012-020	478	G.E. 1.68MW	Tuco 230kV	0.95	0.95
GEN-2012-034	7MW increase	GENROU	Mustang 230kV	0.95	0.95
GEN-2012-035	7MW increase	GENROU	Mustang 230kV	0.95	0.95
GEN-2012-036	7MW increase	GENROU	Mustang 230kV	0.95	0.95
GEN-2012-037	196 Summer/203 Winter	GENROU	Tuco 345kV	0.95	0.95
GEN-2012-038	196MW/203MW	GENROU	Tuco 345kV	0.95	0.95

*As reactive power is required for all projects, the final requirement in the GIA will be the pro-forma 95% lagging to 95% leading at the point of interconnection.

Cluster Group 7 (Southwest Oklahoma Area)

The Group 7 stability analysis for this study was performed by POWER-tek Global Inc (POWER-tek). Stability analysis has determined that with the power factor requirements and all network upgrades in service, the transmission system will remain stable and all interconnection requests in Group 7 will meet FERC Order #661A low voltage ride through (LVRT) requirements.

Power Factor Requirements:

Request	Size (MW)	Generator Model	Point of Interconnection	Power Factor Requirement at POI	
				Lagging (supplying)	Leading (absorbing)
GEN-2012-028	74.25	G.E. 1.7MW	Gotebo 69kV	0.95	0.95
GEN-2012-029	100.3	G.E. 1.7MW	Hobart-Clinton AFB tap	0.95	0.95

*As reactive power is required for all projects, the final requirement in the GIA will be the pro-forma 95% lagging to 95% leading at the point of interconnection.

Cluster Group 8 (South Central Kansas/North Oklahoma)

The Group 8 stability analysis for this study was performed by Mitsubishi Electric Power Products Inc. (Mitsubishi). Stability analysis has determined that with the power factor requirements and all network upgrades in service, the transmission system will remain stable and all interconnection requests in Group 8 will meet FERC Order #661A low voltage ride through (LVRT) requirements.

Power Factor Requirements:

Request	Size (MW)	Generator Model	Point of Interconnection	Power Factor Requirement at POI	
				Lagging (supplying)	Leading (absorbing)
GEN-2012-023	115	Siemens 2.3MW	Viola 345kV	0.95	0.95
GEN-2012-027	150.7	G.E. 1.62MW	Shidler 138kV	0.95	0.95
GEN-2012-032	300	Vestas V112 3.0MW	Rose Hill – Sooner 345kV	0.95	0.95
GEN-2012-033	98.8	G.E. 1.6MW	Bunch Creek-South 4 th	0.95	0.95
GEN-2012-040	76.5	G.E. 1.7MW	Chilocco 138kV	0.95	0.95
GEN-2012-041	85/121	GENROU	Rose Hill-Sooner	0.95	0.95

*As reactive power is required for all projects, the final requirement in the GIA will be the pro-forma 95% lagging to 95% leading at the point of interconnection.

Cluster Group 9/10 (Nebraska)

The Group 9 stability analysis for this study was performed by S&C Electric (“S&C”). Stability analysis has determined that with the power factor requirements and all network upgrades in service, the transmission system will remain stable and all interconnection requests in Group 9 will meet FERC Order #661A low voltage ride through (LVRT) requirements.

Power Factor Requirements:

Request	Size (MW)	Generator Model	Point of Interconnection	Power Factor Requirement at POI	
				Lagging (supplying)	Leading (absorbing)
GEN-2012-017	115MW increase	GENROU	Cooper 345kV	0.95	0.95
GEN-2012-018	200	G.E. 1.6MW	Proposed Dixon County 230kV	0.95	0.95
GEN-2012-021	4.8	GENROU	84 th & Bluff 115kV	0.95	0.95

*As reactive power is required for all projects, the final requirement in the GIA will be the pro-forma 95% lagging to 95% leading at the point of interconnection.

Cluster Group 11 (North Central Kansas Area)

This area number is reserved

Cluster Group 12 (Northwest Arkansas Area)

There was no stability analysis conducted in the Northwest Arkansas area due to no requests in the area.

Cluster Group 13 (Northwest Missouri Area)

There was no stability analysis conducted in the Northwest Missouri area due to no requests in the area.

Cluster Group 14 (South Central Oklahoma)

There was no stability analysis conducted in the South Central Oklahoma area due to no requests in the area.

Cluster Group 15 (reserved)

This group has been retired and all prior Group 15 requests have been re-designated as Group 9/10 requests.

Conclusion

The minimum cost of interconnecting 3,318.4 MW of new interconnection requests included in this Definitive Interconnection System Impact Study is estimated at \$666,463,000 for the Allocated Network Upgrades and Transmission Owner Interconnection Facilities are listed in Appendix E and F. These costs do not include the cost of upgrades of other transmission facilities listed in Appendix H which are Network Constraints.

These interconnection costs do not include any cost of Network Upgrades determined to be required by short circuit analysis. These studies will be performed if the Interconnection Customer executes the appropriate Interconnection Facilities Study Agreement and provides the required data along with demonstration of Site Control and the appropriate deposit. At the time of the Interconnection Facilities Study, a better determination of the interconnection facilities may be available.

The required interconnection costs listed in Appendices E, and F, and other upgrades associated with Network Constraints do not include all costs associated with the deliverability of the energy to final customers. These costs are determined by separate studies if the Customer submits a Transmission Service Request (TSR) through SPP's Open Access Same Time Information System (OASIS) as required by Attachment Z1 of the SPP Open Access Transmission Tariff (OATT).

Appendix

A: Generation Interconnection Requests Considered for Impact Study

See next page.

A: Generation Interconnection Requests Considered for Impact Study

Request	Amount	Service	Area	Requested Point of Interconnection	Proposed Point of Interconnection	Requested In-Service Date	In Service Date Delayed Until no earlier than*
ASGI-2012-002	18.15	ER	SPS	FE-Clovis Interchange 115kV	FE-Clovis Interchange 115kV		
GEN-2012-015	25.00	ER/NR	SPS	Caprock 34.5kV	Caprock 34.5kV	5/1/2014	TBD
GEN-2012-016	312.00	ER/NR	WFEC	Tap Woodward - Thistle 345kV Ckt1	Tap Woodward - Thistle 345kV Ckt1	3/1/2017	12/31/2014
GEN-2012-017	115.00	ER	NPPD	Cooper 345kV	Cooper 345kV	9/1/2018	TBD
GEN-2012-018	200.00	ER	NPPD	Tap Hoskins - Twin Church 230kV (GEN-2010-051T)	Tap Hoskins - Twin Church 230kV (GEN-2010-051T)	12/15/2014	TBD
GEN-2012-020	477.12	ER	SPS	TUCO 230kV	TUCO 230kV	9/30/2015	12/31/2014
GEN-2012-021	4.80	ER	LES	Terry Bundy Generating Station 115kV	Terry Bundy Generating Station 115kV	8/1/2013	TBD
GEN-2012-023	115.00	ER	WERE	Viola 345kV	Viola 345kV	12/31/2014	TBD
GEN-2012-024	180.00	ER/NR	SUNCMKEC	Clark County 345kV	Clark County 345kV	12/31/2015	12/31/2014
GEN-2012-026	100.00	ER/NR	MIDW	Colby 115kV	Colby 115kV	12/31/2014	TBD
GEN-2012-027	150.70	ER	AEPW	Shidler 138kV	Shidler 138kV	12/1/2014	TBD
GEN-2012-028	74.80	ER	WFEC	Gotebo 69kV	Gotebo 69kV	12/1/2014	TBD
GEN-2012-029	100.30	ER	AEPW	Tap Little Elk - Hobart 138kV	Tap Little Elk - Hobart 138kV	12/1/2014	TBD
GEN-2012-031	200.10	ER/NR	OKGE	Cimarron 345kV (GEN-2010-040 Sub)	Cimarron 345kV (GEN-2010-040 Sub)	11/30/2014	TBD
GEN-2012-032	300.00	ER/NR	OKGE	Tap Rose Hill - Sooner 345kV	Tap Rose Hill - Sooner 345kV	11/30/2014	TBD
GEN-2012-033	98.82	ER	OKGE	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV	12/1/2014	TBD
GEN-2012-034	7.00	ER	SPS	Mustang 230kV	Mustang 230kV	6/1/2013	TBD
GEN-2012-035	7.00	ER	SPS	Mustang 230kV	Mustang 230kV	6/1/2013	TBD
GEN-2012-036	7.00	ER	SPS	Mustang 230kV	Mustang 230kV	6/1/2013	TBD
GEN-2012-037	203.00	ER	SPS	TUCO 345kV	TUCO 345kV	3/1/2015	12/31/2014
GEN-2012-038	203.00	ER	SPS	Tap Border - TUCO 345kV	Tap Border - TUCO 345kV	3/1/2015	12/31/2014
GEN-2012-040	76.50	ER/NR	OKGE	Chilocco 138kV	Chilocco 138kV	12/1/2013	TBD
GEN-2012-041	121.50	ER/NR	OKGE	Tap Rose Hill - Sooner 345kV	Tap Rose Hill - Sooner 345kV	4/15/2015	TBD
GEN-2012-042	220.00	ER/NR	SUNCMKEC	Spearville 345kV	Spearville 345kV	12/31/2014	12/31/2014
Total: 3,316.79							

*request dependent upon Priority Projects or Balanced Portfolio may be delayed until 12/31/2014. Other projects in service date to be determined after Facility Study.

B: Prior Queued Interconnection Requests

See next page.

B: Prior Queued Interconnection Requests

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
ASGI-2010-006	150.00	AECI	Tap Fairfax (AECI) - Shilder (AEPW) 138kV	AECI queue Affected Study
ASGI-2010-010	42.00	SPS	Lovington 115kV	Lea County Affected Study
ASGI-2010-020	30.00	SPS	Tap LE-Tatum - LE-Crossroads 69kV	Lea County Affected Study
ASGI-2010-021	15.00	SPS	Tap LE-Saunders Tap - LE-Anderson 69kV	Lea County Affected Study
ASGI-2011-001	29.00	SPS	Lovington 115kV	Lea County Affected Study
ASGI-2011-002	10.00	SPS	Herring 115kV	AECI queue Affected Study
ASGI-2011-003	10.00	SPS	Hendricks 115kV	AECI queue Affected Study
ASGI-2011-004	20.00	SPS	Pleasant Hill 69kV	Under Study (DISIS-2011-002)
ASGI-2012-006	22.00	SUNCMKEC	Tap Hugoton - Rolla 69kV	Under Study (DISIS-2012-001)
GEN-2001-014	96.00	WFEC	Ft Supply 138kV	On-Line
GEN-2001-026	74.00	WFEC	Washita 138kV	On-Line
GEN-2001-033	180.00	SPS	San Juan Tap 230kV	On-Line
GEN-2001-036	80.00	SPS	Norton 115kV	On-Line
GEN-2001-037	102.00	OKGE	FPL Moreland Tap 138kV	On-Line
GEN-2001-039A	105.00	SUNCMKEC	Tap Greensburg - Ft Dodge (Shooting Star Tap) 115kV	On Schedule for 2012
GEN-2001-039M	99.00	SUNCMKEC	Central Plains Tap 115kV	On-Line
GEN-2002-004	200.00	WERE	Latham 345kV	On-Line at 150MW
GEN-2002-005	120.00	WFEC	Red Hills Tap 138kV	On-Line
GEN-2002-008	240.00	SPS	Hitchland 345kV	On-Line at 120MW
GEN-2002-009	80.00	SPS	Hansford 115kV	On-Line
GEN-2002-022	240.00	SPS	Bushland 230kV	On-Line
GEN-2002-023N	1.00	NPPD	Harmony 115kV	On-Line
GEN-2002-025A	150.00	SUNCMKEC	Spearville 230kV	On-Line
GEN-2003-004 GEN-2004-023 GEN-2005-003	151.00	WFEC	Washita 138kV	On-Line
GEN-2003-005	100.00	WFEC	Anadarko - Paradise (Blue Canyon) 138kV	On-Line
GEN-2003-006A	200.00	SUNCMKEC	Elm Creek 230kV	On-Line
GEN-2003-019	250.00	MIDW	Smoky Hills Tap 230kV	On-Line
GEN-2003-020	160.00	SPS	Martin 115kV	On-Line at 80MW
GEN-2003-021N	75.00	NPPD	Ainsworth Wind Tap 115kV	On-Line
GEN-2003-022	120.00	AEPW	Washita 138kV	On-Line
GEN-2004-005N	30.00	NPPD	St Francis 115kV	On Suspension
GEN-2004-014	154.00	SUNCMKEC	Spearville 230kV	On Schedule for 2012
GEN-2004-020	27.00	AEPW	Washita 34.5kV	On-Line
GEN-2004-023N	75.00	NPPD	Columbus Co 115kV	On-Line
GEN-2005-005	18.00	OKGE	FPL Moreland Tap 138kV	IA Pending
GEN-2005-008	120.00	OKGE	Woodward 138kV	On-Line
GEN-2005-012	250.00	SUNCMKEC	Spearville 345kV	On Schedule for 2012
GEN-2005-013	201.00	WERE	Tap Latham - Neosho (Caney River) 345kV	On-Line
GEN-2006-002	101.00	AEPW	Sweetwater 230kV	On-Line
GEN-2006-006	206.00	SUNCMKEC	Spearville 345kV	IA Pending
GEN-2006-014	300.00	MIPU	Tap Maryville - Midway (Nodway Co) 161kV	On Suspension
GEN-2006-018	170.00	SPS	TUCO Interchange 230kV	On-Line
GEN-2006-020N	42.00	NPPD	Bloomfield 115kV	On-Line
GEN-2006-020S	19.00	SPS	DWS Frisco 115kV	On Schedule for 3/2012

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2006-021	101.00	SUNCMKEC	Flat Ridge Tap 138kV	On-Line
GEN-2006-022	150.00	SUNCMKEC	Ninnescah 115kV	On Suspension
GEN-2006-024S	20.00	WFEC	Buffalo Bear Tap 69kV	On-Line
GEN-2006-026	604.00	SPS	Hobbs 230kV & Hobbs 115kV	On-Line
GEN-2006-031	75.00	MIDW	Knoll 115kV	On-Line
GEN-2006-032	200.00	MIDW	South Hays 230kV	On Suspension
GEN-2006-035	225.00	AEPW	Sweetwater 230kV	On-Line at 132MW
GEN-2006-037N1	75.00	NPPD	Broken Bow 115kV	On Suspension
GEN-2006-038N005	80.00	NPPD	Broken Bow 115kV	On-Line
GEN-2006-038N019	80.00	NPPD	Petersburg North 115kV	On-Line
GEN-2006-040	108.00	SUNCMKEC	Mingo 115kV	On Suspension
GEN-2006-043	99.00	AEPW	Sweetwater 230kV	On-Line
GEN-2006-044	370.00	SPS	Hitchland 345kV	On Schedule for 2012
GEN-2006-044N	40.00	OPPD	North Petersburg 115kV	On-Line
GEN-2006-045	240.00	SPS	Tap Potter - Plant X 230kV (South Randle County) 230kV	On Suspension
GEN-2006-046	131.00	OKGE	Dewey 138kV	On-Line
GEN-2006-047	240.00	SPS	Tap Bushland - Deaf Smith (Buffalo) 230kV	On Suspension
GEN-2007-011	135.00	SUNCMKEC	Syracuse 115kV	On Suspension
GEN-2007-011N08	81.00	NPPD	Bloomfield 115kV	On-Line
GEN-2007-015	135.00	WERE	Tap Kelly(WERE) - S1399(OPPD) 161kV	On Schedule 2014
GEN-2007-021	201.00	OKGE	Tatonga 345kV	On Schedule for 2014
GEN-2007-025	300.00	WERE	Viola 345kV	On Schedule for 2012
GEN-2007-032	150.00	WFEC	Tap Clinton Junction - Clinton 138kV	On Schedule for 2013
GEN-2007-038	200.00	SUNCMKEC	Spearville 345kV	On Schedule for 2015
GEN-2007-040	200.00	SUNCMKEC	Buckner 345kV	On Schedule for 2012
GEN-2007-043	200.00	OKGE	Minco 345kV	On-Line
GEN-2007-044	300.00	OKGE	Tatonga 345kV	On Schedule for 2014
GEN-2007-046	200.00	SPS	Hitchland 115kV	On Schedule for 2014
GEN-2007-048	400.00	SPS	Tap Amarillo S - Swisher 230kV	On Schedule for 2014
GEN-2007-050	170.00	OKGE	Woodward EHV 138kV	On-Line at 150MW
GEN-2007-052	150.00	WFEC	Anadarko 138kV	On-Line
GEN-2007-057	34.00	SPS	Moore County East 115kV	On Schedule for 2014
GEN-2007-062	765.00	OKGE	Woodward EHV 345kV	On Schedule for 2014
GEN-2008-003	101.00	OKGE	Woodward EHV 138kV	On-Line
GEN-2008-008	60.00	SPS	Graham 69kV	On Suspension
GEN-2008-009	60.00	SPS	San Juan Tap 230kV	On Schedule for 2014
GEN-2008-013	300.00	OKGE	Tap Wichita - Woodring (Hunter) 345kV	On-Line
GEN-2008-017	300.00	SUNCMKEC	Setab 345kV	On Schedule for 2014
GEN-2008-018	405.00	SPS	Finney 345kV	On Schedule for 2012
GEN-2008-019	300.00	OKGE	Tatonga 345kV	On Schedule for 2015
GEN-2008-021	42.00	WERE	Wolf Creek 345kV	On-Line
GEN-2008-022	300.00	SPS	Tap Eddy Co - Tolk (Chaves County) 345kV	On Schedule for 2015
GEN-2008-023	150.00	AEPW	Hobart Junction 138kV	On Schedule for 2012
GEN-2008-025	101.00	SUNCMKEC	Ruleton 115kV	On Schedule for 2015
GEN-2008-029	250.00	OKGE	Woodward EHV 138kV	On Schedule for 2014
GEN-2008-037	101.00	WFEC	Tap Washita - Blue Canyon Wind 138kV	On-Line
GEN-2008-044	198.00	OKGE	Tatonga 345kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2008-046	200.00	OKGE	Sunnyside 345kV	On Suspension
GEN-2008-047	300.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV	IA Pending
GEN-2008-051	322.00	SPS	Potter County 345kV	On Schedule for 2012
GEN-2008-071	77.00	OKGE	Newkirk 138kV	On Suspension
GEN-2008-079	99.00	SUNCMKEC	Tap Cudahy - Ft Dodge 115kV	On-Line
GEN-2008-086N02	200.00	NPPD	Tap Ft Randle - Columbus (Madison County) 230kV	On Schedule for 2014
GEN-2008-088	51.00	SPS	Vega 69kV	IA Pending
GEN-2008-092	201.00	MIDW	Knoll 230kV	IA Pending
GEN-2008-098	101.00	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV	IA Pending
GEN-2008-1190	60.00	OPPD	S1399 161kV	On-Line
GEN-2008-123N	90.00	NPPD	Tap Guide Rock - Pauline 115kV	On Suspension
GEN-2008-124	200.00	SUNCMKEC	Spearville 345kV	On Schedule for 2014
GEN-2008-124T	42.00	SPS	TC-Keyes Texas County 69kV	IA Pending
GEN-2008-129	80.00	MIPU	Pleasant Hill 161kV	On-Line
GEN-2009-008	200.00	MIDW	South Hays 230kV	On Suspension
GEN-2009-016	101.00	AEPW	Falcon Road 138kV	On Suspension
GEN-2009-020	49.00	MIDW	Tap Nekoma - Bazine 69kV	On Suspension
GEN-2009-025	60.00	OKGE	Tap Deer Creek - Sinclair Blackwell 69kV	On Schedule for 2012
GEN-2009-040	74.00	WERE	Marshall 115kV	On Suspension
GEN-2009-067S	20.00	SPS	Seven Rivers 69kV	On Suspension
GEN-2009-073T	48.00	SPS	TC-Eva Texas County 69kV	IA Pending
GEN-2010-001	300.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV	On Schedule for 2014 (204 MW) and 2015 (96 MW)
GEN-2010-003	101.00	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV	IA Pending
GEN-2010-005	300.00	WERE	Viola 345kV	On Schedule for 2012
GEN-2010-006	205.00	SPS	Jones 230kV	On-Line
GEN-2010-009	166.00	SUNCMKEC	Buckner 345kV	On-Line
GEN-2010-011	30.00	OKGE	Tatonga 345kV	On Line
GEN-2010-014	359.00	SPS	Hitchland 345kV	On Schedule for 2016
GEN-2010-015	200.00	SUNCMKEC	Spearville 345kV	On Schedule for 2015
GEN-2010-020	20.00	SPS	Roswell 69kV	On Suspension
GEN-2010-029	450.00	SUNCMKEC	Spearville 345kV	IA Pending
GEN-2010-036	5.00	WERE	6th Street 115kV	On Schedule for 2012
GEN-2010-040	300.00	OKGE	Cimarron 345kV	On Schedule for 2012
GEN-2010-041	10.00	OPPD	S 1399 161kV	Facility Study
GEN-2010-044	99.00	NPPD	Harbine 115kV	IA Pending
GEN-2010-045	198.00	SUNCMKEC	Buckner 345kV	IA Pending
GEN-2010-046	56.00	SPS	TUCO Interchange 230kV	On Schedule for 2016
GEN-2010-048	70.00	MIDW	Tap Beach Station - Redline 115kV	IA Pending
GEN-2010-051	200.00	NPPD	Tap Twin Church - Hoskins 230kV	On Schedule for 2014
GEN-2010-055	4.00	AEPW	Wekiwa 138kV	On Schedule for 2013
GEN-2010-056	151.00	MIPU	Tap Saint Joseph - Cooper 345kV	On Schedule for 2015
GEN-2010-057	201.00	MIDW	Rice County 230kV	On-Line
GEN-2010-058	20.00	SPS	Chaves County 115kV	On Suspension
GEN-2010-061	180.00	MIDW	Tap Post Rock - Spearville (GEN-2011-017T) 345kV	Facility Study
GEN-2011-007	250.00	OKGE	Tap Cimarron - Woodring (Matthewson) 345kV	IA Pending
GEN-2011-008	600.00	SUNCMKEC	Clark County 345kV	Facility Study
GEN-2011-010	101.00	OKGE	Minco 345kV	On Schedule for 2012

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2011-011	50.00	KACP	Iatan 345kV	On-Line
GEN-2011-012	104.00	SPS	Tap Moore County - Hitchland 345kV	IA Pending
GEN-2011-014	201.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV	IA Pending
GEN-2011-016	200.00	SUNCMKEC	Spearville 345kV	IA Pending
GEN-2011-017	299.00	SUNCMKEC	Tap Spearville - PostRock (GEN-2011-017T) 345kV	Facility Study
GEN-2011-018	74.00	NPPD	Steele City 115kV	On Schedule for 2013
GEN-2011-019	299.00	OKGE	Woodward 345kV	IA Pending
GEN-2011-020	299.00	OKGE	Woodward 345kV	IA Pending
GEN-2011-021	299.00	SPS	Beaver County 345kV	IA Pending
GEN-2011-022	299.00	SPS	Hitchland 345kV	IA Pending
GEN-2011-023	299.00	SUNCMKEC	Clark County 345kV	Facility Study
GEN-2011-024	299.00	OKGE	Tatonga 345kV	IA Pending
GEN-2011-025	82.00	SPS	Tap Floyd County - Crosby County 115kV	On Suspension
GEN-2011-027	120.00	NPPD	Hoskins 230kV	IA Pending
GEN-2011-037	7.00	WFEC	Blue Canyon 5 138kV	IA Pending
GEN-2011-040	111.00	OKGE	Tap Ratliff - Pooleville 138kV	On Schedule for 2013
GEN-2011-043	150.00	SUNCMKEC	Thistle 345kV	Facility Study
GEN-2011-044	150.00	SUNCMKEC	Thistle 345kV	Facility Study
GEN-2011-045	205.00	SPS	Jones 230kV	IA Pending
GEN-2011-046	27.00	SPS	Lopez 115kV	IA Pending
GEN-2011-048	175.00	SPS	Mustang 230kV	On Schedule for 2014
GEN-2011-049	250.00	OKGE	Border 345kV	IA Pending
GEN-2011-050	110.00	AEPW	Tap Rush Springs - Marlow 138kV	IA Pending
GEN-2011-051	104.00	OKGE	Tap Woodward - Tatonga 345kV	IA Pending
GEN-2011-054	300.00	OKGE	Cimarron 345kV	On Schedule for 2013 (200 MW) and 2014 (99 MW)
GEN-2011-055	53.00	OPPD	South Sterling 69kV	Facility Study
GEN-2011-056	4.00	NPPD	Jeffrey 115kV	On-Line
GEN-2011-056A	4.00	NPPD	John 1 115kV	On-Line
GEN-2011-056B	4.00	NPPD	John 2 115kV	On-Line
GEN-2011-057	150.00	WERE	Creswell 138kV	IA Pending
GEN-2012-001	61.00	SPS	Tap Grassland - Borden County 230kV	On-Line
GEN-2012-002	101.00	SUNCMKEC	Tap Pile - Scott City 115kV	Facility Study
GEN-2012-004	41.00	OKGE	Tap Ratliff - Pooleville 138kV	IA Pending
GEN-2012-007	120.00	SUNCMKEC	Rubart 115kV	Facility Study
GEN-2012-008	40.00	SPS	Mustang 115kV & Mustang 230kV	Facility Study
GEN-2012-009	15.00	SPS	Mustang 230kV	Facility Study
GEN-2012-010	15.00	SPS	Mustang 230kV	Facility Study
GEN-2012-011	200.00	SUNCMKEC	Tap Spearville - Post Rock 345kV (North of GEN-2011-017 Tap)	Facility Study
Gray County Wind (Montezuma)	110.00	SUNCMKEC	Gray County Tap 115kV	On-Line
Llano Estacado (White Deer)	80.00	SPS	Llano Wind 115kV	On-Line
NPPD Distributed (Broken Bow)	8.00	NPPD	Broken Bow 115kV	On-Line
NPPD Distributed (Burwell)	3.00	NPPD	Ord 115kV	On-Line
NPPD Distributed (Columbus Hydro)	45.00	NPPD	Columbus 115kV	On-Line
NPPD Distributed (North Platte - Lexington)	54.00	NPPD	Multiple: Jeffrey 115kV, John_1 115kV, John_2 115kV	On-Line
NPPD Distributed (Ord)	11.00	NPPD	Ord 115kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
NPPD Distributed (Stuart)	2.00	NPPD	Ainsworth 115kV	On-Line
SPS Distributed (Dumas 19th St)	20.00	SPS	Dumas 19th Street 115kV	On-Line
SPS Distributed (Etter)	20.00	SPS	Etter 115kV	On-Line
SPS Distributed (Hopi)	10.00	SPS	Hopi 115kV	On-Line
SPS Distributed (Jal)	10.00	SPS	S Jal 115kV	On-Line
SPS Distributed (Lea Road)	10.00	SPS	Lea Road 115kV	On-Line
SPS Distributed (Monument)	10.00	SPS	Monument 115kV	On-Line
SPS Distributed (Moore E)	25.00	SPS	Moore East 115kV	On-Line
SPS Distributed (Ocotillo)	10.00	SPS	Ocotillo 115kV	On-Line
SPS Distributed (Sherman)	20.00	SPS	Sherman 115kV	On-Line
SPS Distributed (Spearman)	10.00	SPS	Spearman 69kV	On-Line
SPS Distributed (TC-Texas County)	20.00	SPS	Texas County 115kV	On-Line
Total:				26,941.0

C: Study Groupings

See next page

C. Study Groups

GROUP 1: WOODWARD AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-014	96.00	WFEC	Ft Supply 138kV
GEN-2001-037	102.00	OKGE	FPL Moreland Tap 138kV
GEN-2005-005	18.00	OKGE	FPL Moreland Tap 138kV
GEN-2005-008	120.00	OKGE	Woodward 138kV
GEN-2006-024S	19.80	WFEC	Buffalo Bear Tap 69kV
GEN-2006-046	131.00	OKGE	Dewey 138kV
GEN-2007-021	201.00	OKGE	Tatonga 345kV
GEN-2007-043	200.00	OKGE	Minco 345kV
GEN-2007-044	300.00	OKGE	Tatonga 345kV
GEN-2007-050	170.00	OKGE	Woodward EHV 138kV
GEN-2007-062	765.00	OKGE	Woodward EHV 345kV
GEN-2008-003	101.00	OKGE	Woodward EHV 138kV
GEN-2008-019	300.00	OKGE	Tatonga 345kV
GEN-2008-029	250.00	OKGE	Woodward EHV 138kV
GEN-2008-044	197.80	OKGE	Tatonga 345kV
GEN-2010-011	30.00	OKGE	Tatonga 345kV
GEN-2010-040	300.00	OKGE	Cimarron 345kV
GEN-2011-007	250.00	OKGE	Tap Cimarron - Woodring (Matthewson) 345kV
GEN-2011-010	100.80	OKGE	Minco 345kV
GEN-2011-019	299.00	OKGE	Woodward 345kV
GEN-2011-020	299.00	OKGE	Woodward 345kV
GEN-2011-024	299.00	OKGE	Tatonga 345kV
GEN-2011-051	104.40	OKGE	Tap Woodward - Tatonga 345kV
GEN-2011-054	300.00	OKGE	Cimarron 345kV
PRIOR QUEUED SUBTOTAL	4,953.80		
GEN-2012-016	312.00	WFEC	Tap Woodward - Thistle 345kV Ckt 1
GEN-2012-031	200.10	OKGE	Cimarron 345kV (GEN-2010-040 Sub)
CURRENT CLUSTER SUBTOTAL	512.10		
AREA TOTAL	5,465.90		

GROUP 2: HITCHLAND AREA			
Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2011-002	10.00	SPS	Herring 115kV
GEN-2002-008	240.00	SPS	Hitchland 345kV
GEN-2002-009	80.00	SPS	Hansford 115kV
GEN-2003-020	160.00	SPS	Martin 115kV
GEN-2006-020S	18.90	SPS	DWS Frisco 115kV
GEN-2006-044	370.00	SPS	Hitchland 345kV
GEN-2007-046	199.50	SPS	Hitchland 115kV
GEN-2007-057	34.50	SPS	Moore County East 115kV
GEN-2008-047	300.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV
GEN-2008-124T	42.00	SPS	TC-Keyes Texas County 69kV
GEN-2009-073T	48.00	SPS	TC-Eva Texas County 69kV
GEN-2010-001	300.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV
GEN-2010-014	358.80	SPS	Hitchland 345kV
GEN-2011-012	104.50	SPS	Tap Moore County - Hitchland 345kV
GEN-2011-014	201.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV
GEN-2011-021	299.00	SPS	Beaver County 345kV
GEN-2011-022	299.00	SPS	Hitchland 345kV
SPS Distributed (Dumas 19th St)	20.00	SPS	Dumas 19th Street 115kV
SPS Distributed (Etter)	20.00	SPS	Etter 115kV
SPS Distributed (Moore E)	25.00	SPS	Moore East 115kV
SPS Distributed (Sherman)	20.00	SPS	Sherman 115kV
SPS Distributed (Spearman)	10.00	SPS	Spearman 69kV
SPS Distributed (TC-Texas County)	20.00	SPS	Texas County 115kV
PRIOR QUEUED SUBTOTAL	3,180.20		
AREA TOTAL	3,180.20		

GROUP 3: SPEARVILLE AREA			
Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2012-006	22.50	SUNCMKEC	Tap Hugoton - Rolla 69kV
GEN-2001-039A	105.00	SUNCMKEC	Tap Greensburg - Ft Dodge (Shooting Star Tap) 115kV
GEN-2002-025A	150.00	SUNCMKEC	Spearville 230kV
GEN-2004-014	154.50	SUNCMKEC	Spearville 230kV
GEN-2005-012	250.00	SUNCMKEC	Spearville 345kV
GEN-2006-006	205.50	SUNCMKEC	Spearville 345kV
GEN-2006-021	101.00	SUNCMKEC	Flat Ridge Tap 138kV
GEN-2006-022	150.00	SUNCMKEC	Ninnescah 115kV
GEN-2007-038	200.00	SUNCMKEC	Spearville 345kV
GEN-2007-040	200.00	SUNCMKEC	Buckner 345kV
GEN-2008-018	405.00	SPS	Finney 345kV
GEN-2008-079	98.90	SUNCMKEC	Tap Cudahy - Ft Dodge 115kV
GEN-2008-124	200.00	SUNCMKEC	Spearville 345kV
GEN-2010-009	165.60	SUNCMKEC	Buckner 345kV
GEN-2010-015	200.10	SUNCMKEC	Spearville 345kV
GEN-2010-029	450.00	SUNCMKEC	Spearville 345kV
GEN-2010-045	197.80	SUNCMKEC	Buckner 345kV
GEN-2010-061	180.00	MIDW	Tap Post Rock - Spearville (GEN-2011-017T) 345kV
GEN-2011-008	600.00	SUNCMKEC	Clark County 345kV
GEN-2011-016	200.10	SUNCMKEC	Spearville 345kV
GEN-2011-017	299.00	SUNCMKEC	Tap Spearville - PostRock (GEN-2011-017T) 345kV
GEN-2011-023	299.00	SUNCMKEC	Clark County 345kV
GEN-2011-043	150.00	SUNCMKEC	Thistle 345kV
GEN-2011-044	150.00	SUNCMKEC	Thistle 345kV
GEN-2012-007	120.00	SUNCMKEC	Rubart 115kV
GEN-2012-011	200.00	SUNCMKEC	Tap Spearville - Post Rock 345kV (North of GEN-2011-017 Tap)
Gray County Wind (Montezuma)	110.00	SUNCMKEC	Gray County Tap 115kV
PRIOR QUEUED SUBTOTAL	5,564.00		
GEN-2012-024	180.00	SUNCMKEC	Clark County 345kV
GEN-2012-042	220.00	SUNCMKEC	Spearville 345kV
CURRENT CLUSTER SUBTOTAL	400.00		
AREA TOTAL	5,964.00		

GROUP 4: NW KANSAS AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-039M	99.00	SUNCMKEC	Central Plains Tap 115kV
GEN-2003-006A	200.00	SUNCMKEC	Elm Creek 230kV
GEN-2003-019	250.00	MIDW	Smoky Hills Tap 230kV
GEN-2006-031	75.00	MIDW	Knoll 115kV
GEN-2006-032	200.00	MIDW	South Hays 230kV
GEN-2006-040	108.00	SUNCMKEC	Mingo 115kV
GEN-2007-011	135.00	SUNCMKEC	Syracuse 115kV
GEN-2008-017	300.00	SUNCMKEC	Setab 345kV
GEN-2008-025	101.00	SUNCMKEC	Ruleton 115kV
GEN-2008-092	201.00	MIDW	Knoll 230kV
GEN-2009-008	199.50	MIDW	South Hays 230kV
GEN-2009-020	48.60	MIDW	Tap Nekoma - Bazine 69kV
GEN-2010-048	70.00	MIDW	Tap Beach Station - Redline 115kV
GEN-2010-057	201.00	MIDW	Rice County 230kV
GEN-2012-002	101.20	SUNCMKEC	Tap Pile - Scott City 115kV
PRIOR QUEUED SUBTOTAL	2,289.30		
GEN-2012-026	100.00	MIDW	Colby 115kV
CURRENT CLUSTER SUBTOTAL	100.00		
AREA TOTAL	2,389.30		

GROUP 5: AMARILLO AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2002-022	240.00	SPS	Bushland 230kV
GEN-2006-045	240.00	SPS	Tap Potter - Plant X 230kV (South Randle County) 230kV
GEN-2006-047	240.00	SPS	Tap Bushland - Deaf Smith (Buffalo) 230kV
GEN-2007-048	400.00	SPS	Tap Amarillo S - Swisher 230kV
GEN-2008-051	322.00	SPS	Potter County 345kV
GEN-2008-088	50.60	SPS	Vega 69kV
Llano Estacado (White Deer)	80.00	SPS	Llano Wind 115kV
PRIOR QUEUED SUBTOTAL	1,572.60		
AREA TOTAL	1,572.60		

GROUP 6: S-TX PANHANDLE/NW AREA			
Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2010-010	42.20	SPS	Lovington 115kV
ASGI-2010-020	30.00	SPS	Tap LE-Tatum - LE-Crossroads 69kV
ASGI-2010-021	15.00	SPS	Tap LE-Saunders Tap - LE-Anderson 69kV
ASGI-2011-001	28.80	SPS	Lovington 115kV
ASGI-2011-003	10.00	SPS	Hendricks 115kV
ASGI-2011-004	20.00	SPS	Pleasant Hill 69kV
GEN-2001-033	180.00	SPS	San Juan Tap 230kV
GEN-2001-036	80.00	SPS	Norton 115kV
GEN-2006-018	170.00	SPS	TUCO Interchange 230kV
GEN-2006-026	604.00	SPS	Hobbs 230kV & Hobbs 115kV
GEN-2008-008	60.00	SPS	Graham 69kV
GEN-2008-009	60.00	SPS	San Juan Tap 230kV
GEN-2008-022	300.00	SPS	Tap Eddy Co - Tolk (Chaves County) 345kV
GEN-2009-067S	20.00	SPS	Seven Rivers 69kV
GEN-2010-006	205.00	SPS	Jones 230kV
GEN-2010-020	20.00	SPS	Roswell 69kV
GEN-2010-046	56.00	SPS	TUCO Interchange 230kV
GEN-2010-058	20.00	SPS	Chaves County 115kV
GEN-2011-025	82.30	SPS	Tap Floyd County - Crosby County 115kV
GEN-2011-045	205.00	SPS	Jones 230kV
GEN-2011-046	27.00	SPS	Lopez 115kV
GEN-2011-048	175.00	SPS	Mustang 230kV
GEN-2012-001	61.20	SPS	Tap Grassland - Borden County 230kV
GEN-2012-008	40.00	SPS	Mustang 115kV & Mustang 230kV
GEN-2012-009	15.00	SPS	Mustang 230kV
GEN-2012-010	15.00	SPS	Mustang 230kV
SPS Distributed (Hopi)	10.00	SPS	Hopi 115kV
SPS Distributed (Jal)	10.00	SPS	S Jal 115kV
SPS Distributed (Lea Road)	10.00	SPS	Lea Road 115kV
SPS Distributed (Monument)	10.00	SPS	Monument 115kV
SPS Distributed (Ocotillo)	10.00	SPS	Ocotillo 115kV
PRIOR QUEUED SUBTOTAL	2,591.50		
ASGI-2012-002	18.15	SPS	FE-Clovis Interchange 115kV
GEN-2012-015	25.00	SPS	Caprock 34.5kV
GEN-2012-020	477.12	SPS	TUCO 230kV
GEN-2012-034	7.00	SPS	Mustang 230kV
GEN-2012-035	7.00	SPS	Mustang 230kV
GEN-2012-036	7.00	SPS	Mustang 230kV
GEN-2012-037	203.00	SPS	TUCO 345kV
GEN-2012-038	203.00	SPS	Tap Border - TUCO 345kV
CURRENT CLUSTER SUBTOTAL	947.27		
AREA TOTAL	3,538.8		

GROUP 7: SW OKLAHOMA AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-026	74.00	WFEC	Washita 138kV
GEN-2002-005	120.00	WFEC	Red Hills Tap 138kV
GEN-2003-004 GEN-2004-023 GEN-2005-003	151.20	WFEC	Washita 138kV
GEN-2003-005	100.00	WFEC	Anadarko - Paradise (Blue Canyon) 138kV
GEN-2003-022	120.00	AEPW	Washita 138kV
GEN-2004-020	27.00	AEPW	Washita 34.5kV
GEN-2006-002	101.00	AEPW	Sweetwater 230kV
GEN-2006-035	225.00	AEPW	Sweetwater 230kV
GEN-2006-043	99.00	AEPW	Sweetwater 230kV
GEN-2007-032	150.00	WFEC	Tap Clinton Junction - Clinton 138kV
GEN-2007-052	150.00	WFEC	Anadarko 138kV
GEN-2008-023	150.00	AEPW	Hobart Junction 138kV
GEN-2008-037	101.00	WFEC	Tap Washita - Blue Canyon Wind 138kV
GEN-2009-016	100.80	AEPW	Falcon Road 138kV
GEN-2011-037	7.00	WFEC	Blue Canyon 5 138kV
GEN-2011-049	250.00	OKGE	Border 345kV
PRIOR QUEUED SUBTOTAL	1,926.00		
GEN-2012-028	74.80	WFEC	Gotebo 69kV
GEN-2012-029	100.30	AEPW	Tap Little Elk - Hobart 138kV
CURRENT CLUSTER SUBTOTAL	175.10		
AREA TOTAL	2,101.10		

GROUP 8: N-OK/S-KS AREA			
Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2010-006	150.00	AECI	Tap Fairfax (AECI) - Schilder (AEPW) 138kV
GEN-2002-004	200.00	WERE	Latham 345kV
GEN-2005-013	201.00	WERE	Tap Latham - Neosho (Caney River) 345kV
GEN-2007-025	300.00	WERE	Viola 345kV
GEN-2008-013	300.00	OKGE	Tap Wichita - Woodring (Hunter) 345kV
GEN-2008-021	42.00	WERE	Wolf Creek 345kV
GEN-2008-071	76.80	OKGE	Newkirk 138kV
GEN-2008-098	100.80	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV
GEN-2009-025	60.00	OKGE	Tap Deer Creek - Sinclair Blackwell 69kV
GEN-2010-003	100.80	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV
GEN-2010-005	300.00	WERE	Viola 345kV
GEN-2010-055	4.50	AEPW	Wekiwa 138kV
GEN-2011-057	150.40	WERE	Creswell 138kV
PRIOR QUEUED SUBTOTAL	1,986.30		
GEN-2012-023	115.00	WERE	Viola 345kV
GEN-2012-027	150.70	AEPW	Shidler 138kV
GEN-2012-032	300.00	OKGE	Tap Rose Hill - Sooner 345kV
GEN-2012-033	98.82	OKGE	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV
GEN-2012-040	76.50	OKGE	Chilocco 138kV
GEN-2012-041	121.50	OKGE	Tap Rose Hill - Sooner 345kV
CURRENT CLUSTER SUBTOTAL	862.52		
AREA TOTAL	2,848.8		

GROUP 9/10: NEBRASKA AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2002-023N	0.80	NPPD	Harmony 115kV
GEN-2003-021N	75.00	NPPD	Ainsworth Wind Tap 115kV
GEN-2004-005N	30.00	NPPD	St Francis 115kV
GEN-2004-023N	75.00	NPPD	Columbus Co 115kV
GEN-2006-020N	42.00	NPPD	Bloomfield 115kV
GEN-2006-037N1	75.00	NPPD	Broken Bow 115kV
GEN-2006-038N005	80.00	NPPD	Broken Bow 115kV
GEN-2006-038N019	80.00	NPPD	Petersburg North 115kV
GEN-2006-044N	40.50	OPPD	North Petersburg 115kV
GEN-2007-011N08	81.00	NPPD	Bloomfield 115kV
GEN-2007-015	135.00	WERE	Tap Kelly(WERE) - S1399(OPPD) 161kV
GEN-2008-086N02	200.00	NPPD	Tap Ft Randle - Columbus (Madison County) 230kV
GEN-2008-1190	60.00	OPPD	S1399 161kV
GEN-2008-123N	89.70	NPPD	Tap Guide Rock - Pauline 115kV
GEN-2009-040	73.80	WERE	Marshall 115kV
GEN-2010-041	10.50	OPPD	S 1399 161kV
GEN-2010-044	99.00	NPPD	Harbine 115kV
GEN-2010-051	200.00	NPPD	Tap Twin Church - Hoskins 230kV
GEN-2011-018	73.60	NPPD	Steele City 115kV
GEN-2011-027	120.00	NPPD	Hoskins 230kV
GEN-2011-055	52.80	OPPD	South Sterling 69kV
GEN-2011-056	3.60	NPPD	Jeffrey 115kV
GEN-2011-056A	3.60	NPPD	John 1 115kV
GEN-2011-056B	4.50	NPPD	John 2 115kV
NPPD Distributed (Broken Bow)	8.30	NPPD	Broken Bow 115kV
NPPD Distributed (Burwell)	3.00	NPPD	Ord 115kV
NPPD Distributed (Columbus Hydro)	45.00	NPPD	Columbus 115kV
NPPD Distributed (North Platte - Lexington)	54.00	NPPD	Multiple: Jeffrey 115kV, John_1 115kV, John_2 115kV
NPPD Distributed (Ord)	10.80	NPPD	Ord 115kV
NPPD Distributed (Stuart)	2.10	NPPD	Ainsworth 115kV
PRIOR QUEUED SUBTOTAL	1,828.60		
GEN-2012-017	115.00	NPPD	Cooper 345kV
GEN-2012-018	200.00	NPPD	Tap Hoskins - Twin Church 230kV (GEN-2010-051T)
GEN-2012-021	4.80	LES	Terry Bundy Generating Station 115kV
CURRENT CLUSTER SUBTOTAL	319.80		
AREA TOTAL	2,148.4		

GROUP 12: NW AR AREA

Request	Capacity	Area	Proposed Point of Interconnection
AREA TOTAL	0.00		

GROUP 13: NW MISSOURI AREA

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2006-014	300.00	MIPU	Tap Maryville - Midway (Nodway Co) 161kV
GEN-2008-129	80.00	MIPU	Pleasant Hill 161kV
GEN-2010-036	4.60	WERE	6th Street 115kV
GEN-2010-056	151.00	MIPU	Tap Saint Joseph - Cooper 345kV
GEN-2011-011	50.00	KACP	Iatan 345kV
PRIOR QUEUED SUBTOTAL	585.60		
AREA TOTAL	585.60		

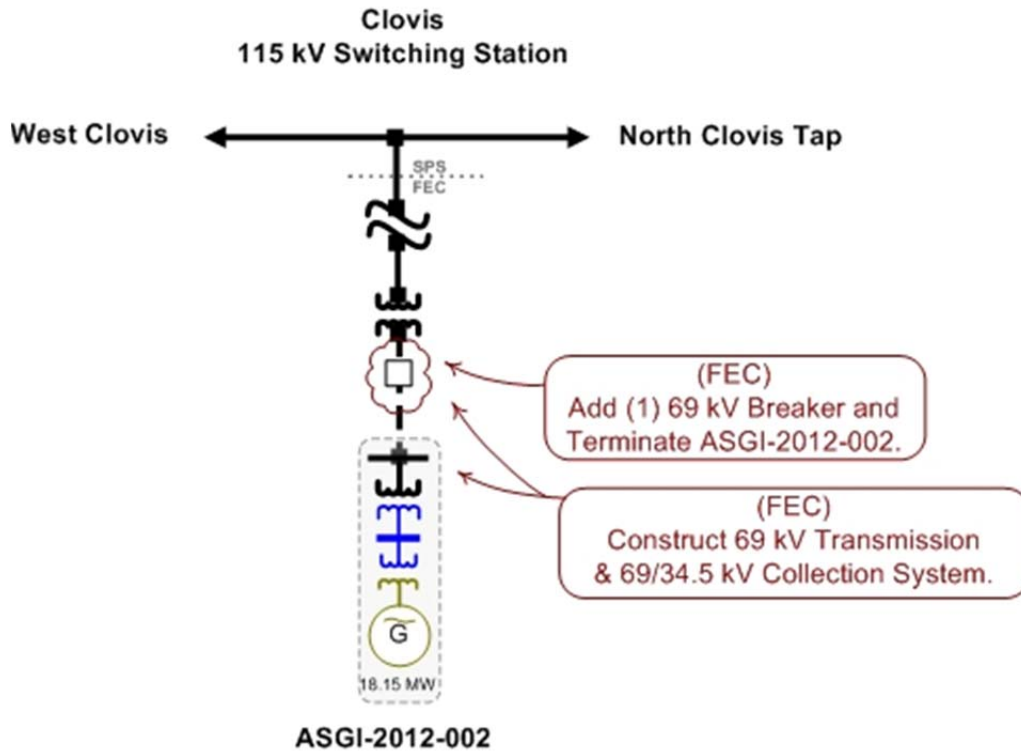
GROUP 14: S OKLAHOMA AREA

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2008-046	200.00	OKGE	Sunnyside 345kV
GEN-2011-040	111.00	OKGE	Tap Ratliff - Pooleville 138kV
GEN-2011-050	109.80	AEPW	Tap Rush Springs - Marlow 138kV
GEN-2012-004	41.40	OKGE	Tap Ratliff - Pooleville 138kV
PRIOR QUEUED SUBTOTAL	462.20		
AREA TOTAL	462.20		

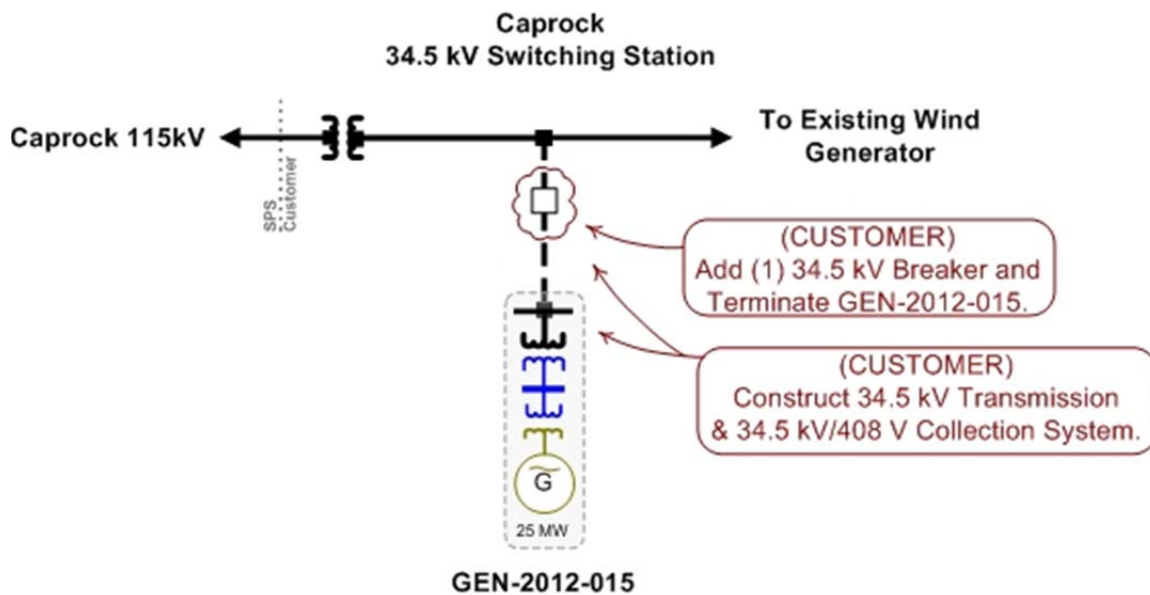
CLUSTER TOTAL (CURRENT STUDY)	3,316.8	MW
PQ TOTAL (PRIOR QUEUED)	26,940.1	MW
CLUSTER TOTAL (INCLUDING PRIOR QUEUED)	30,256.9	MW

D: Proposed Point of Interconnection One line Diagrams

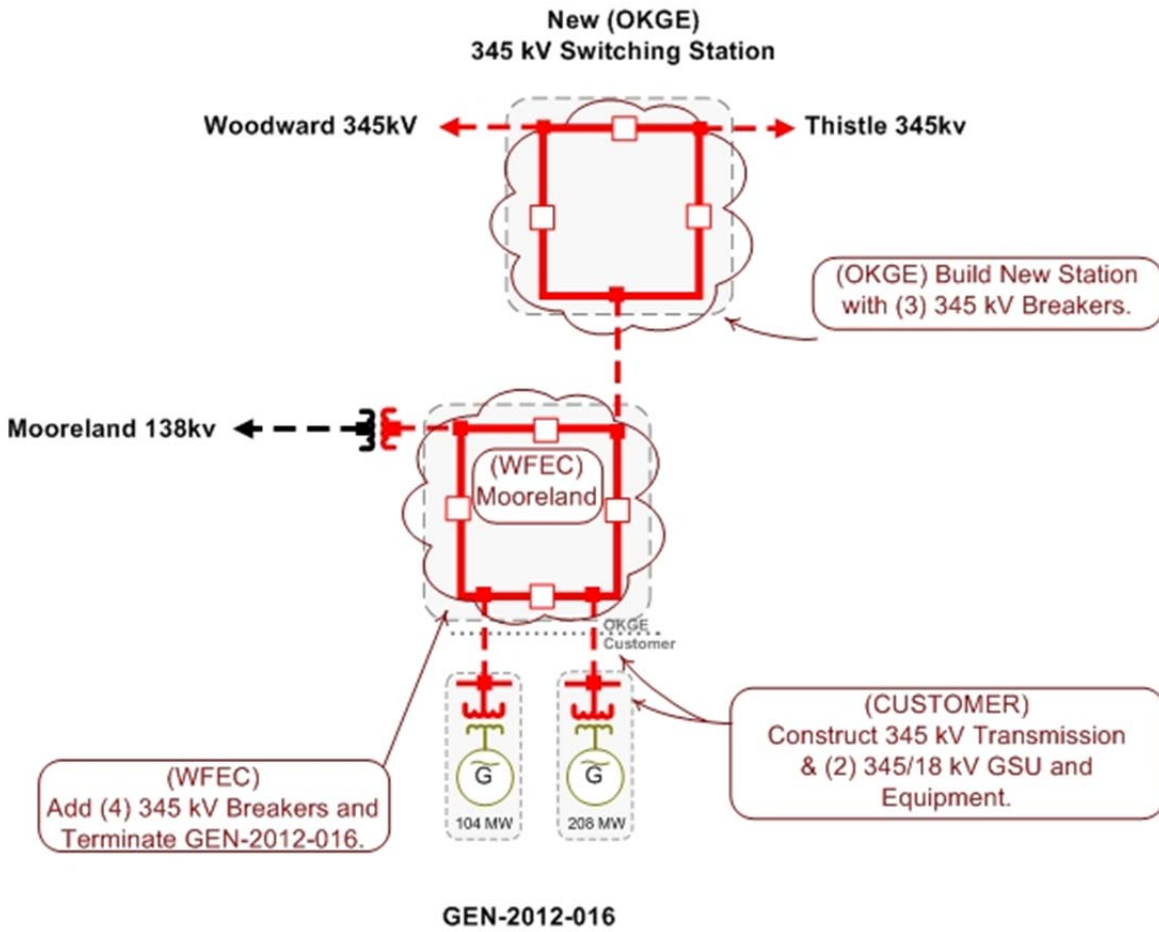
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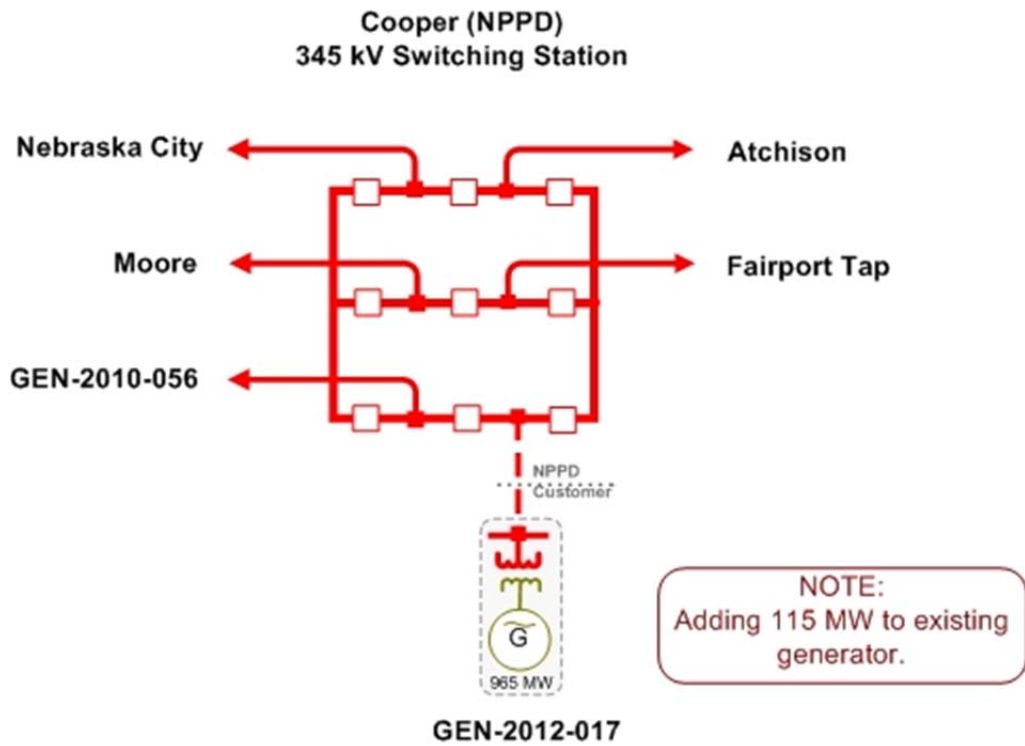
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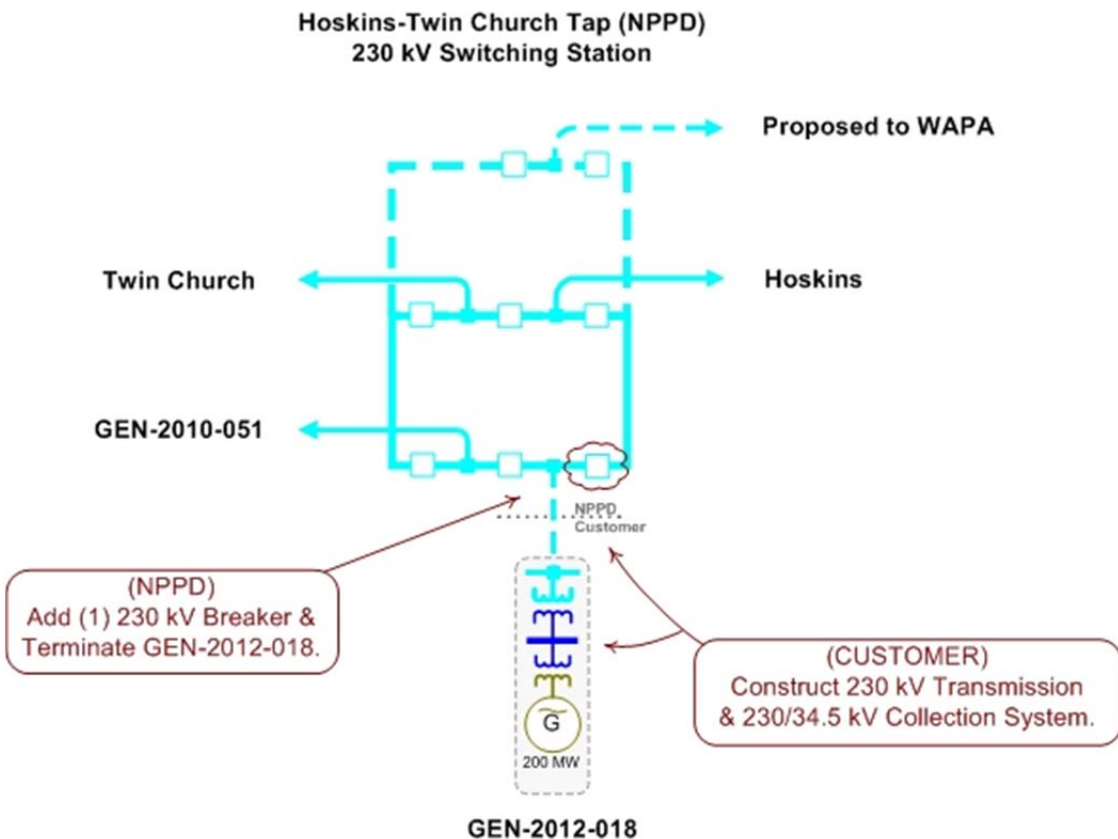
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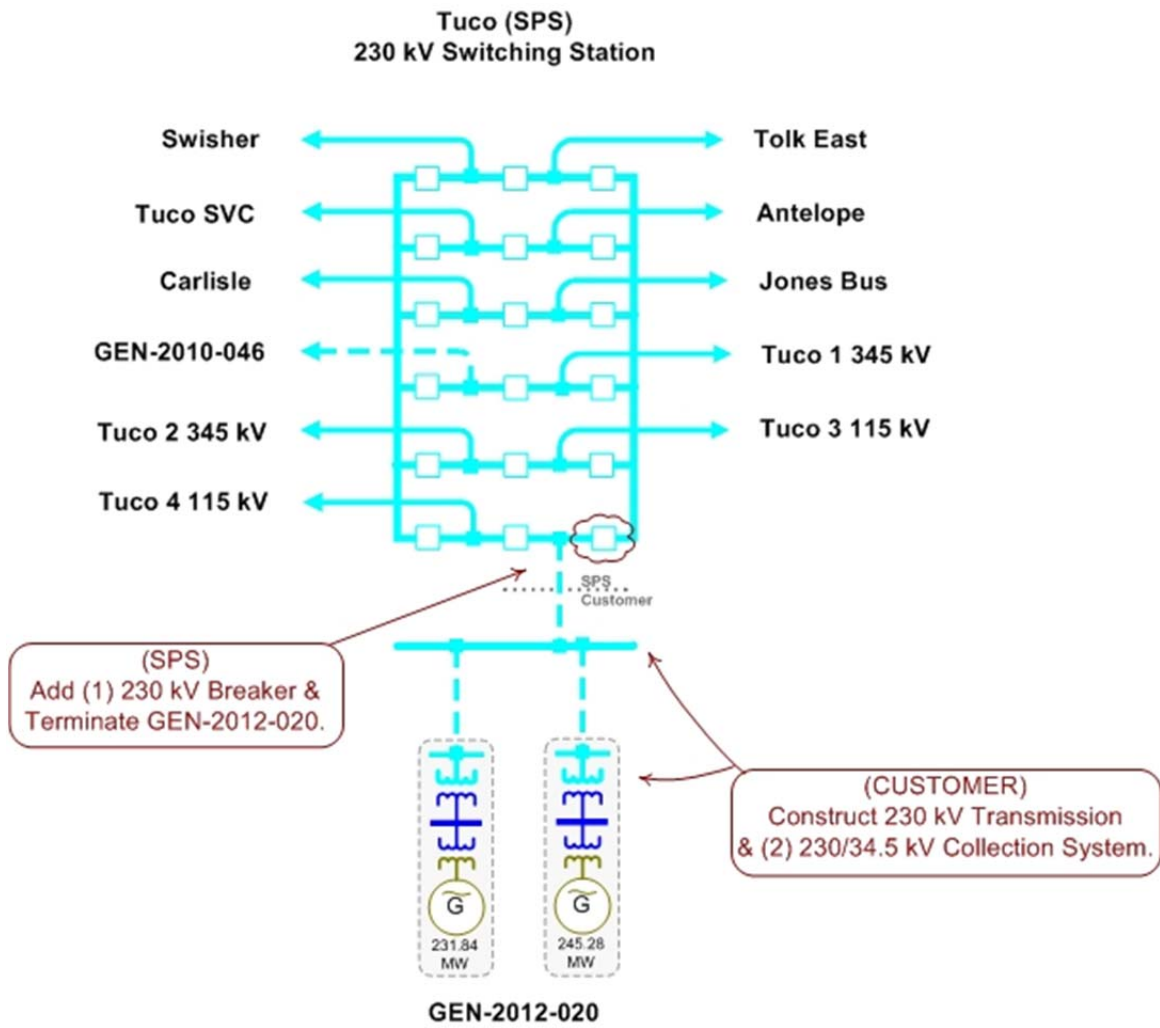
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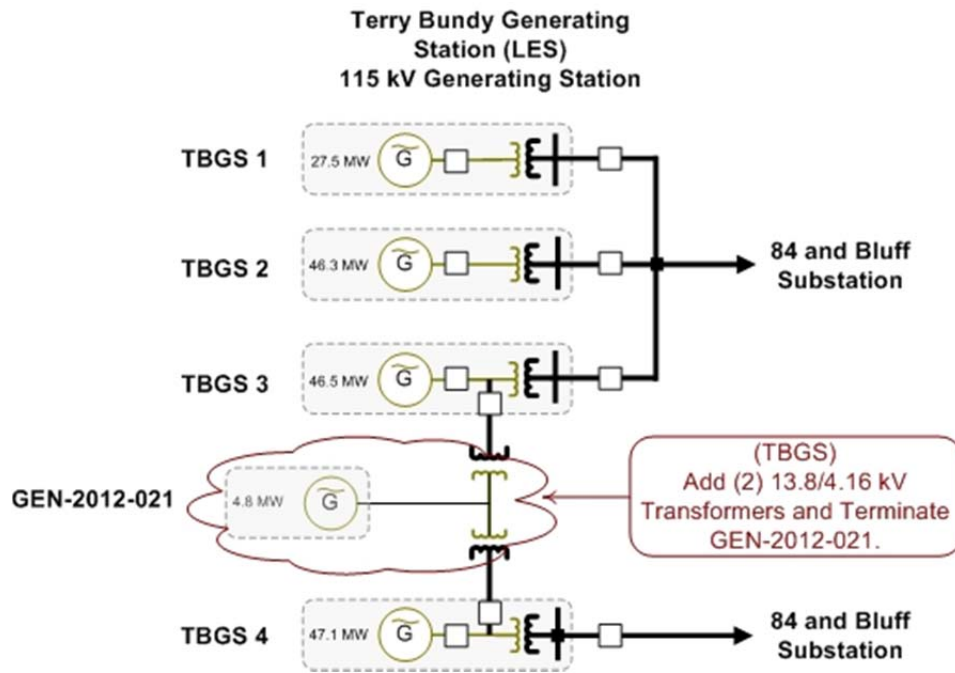
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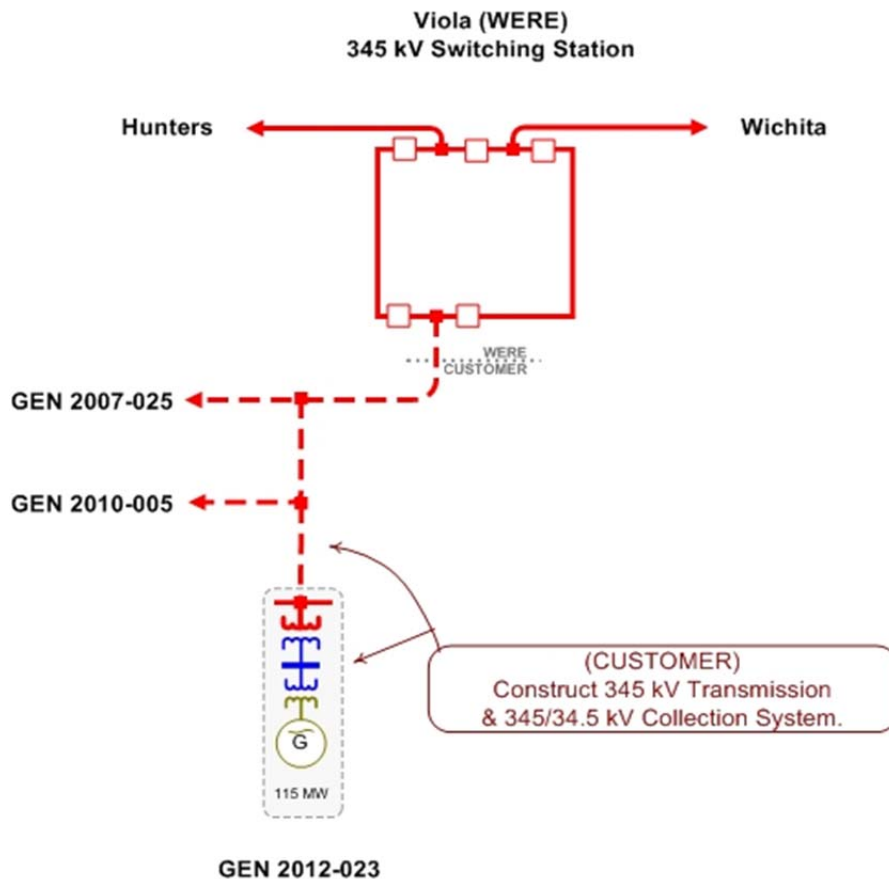
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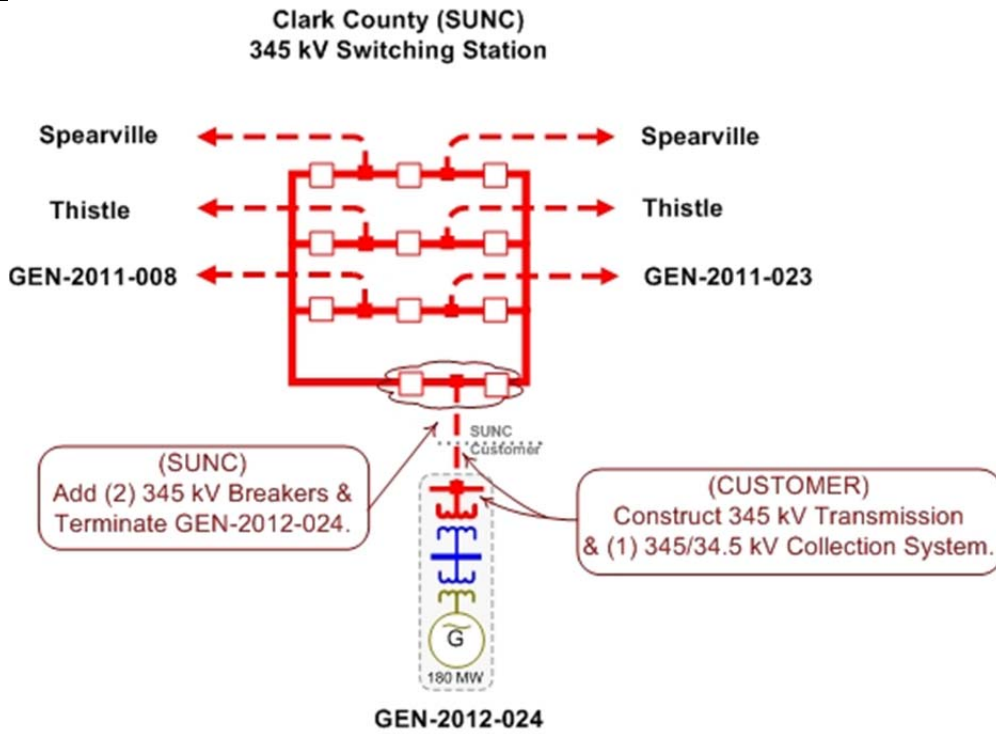
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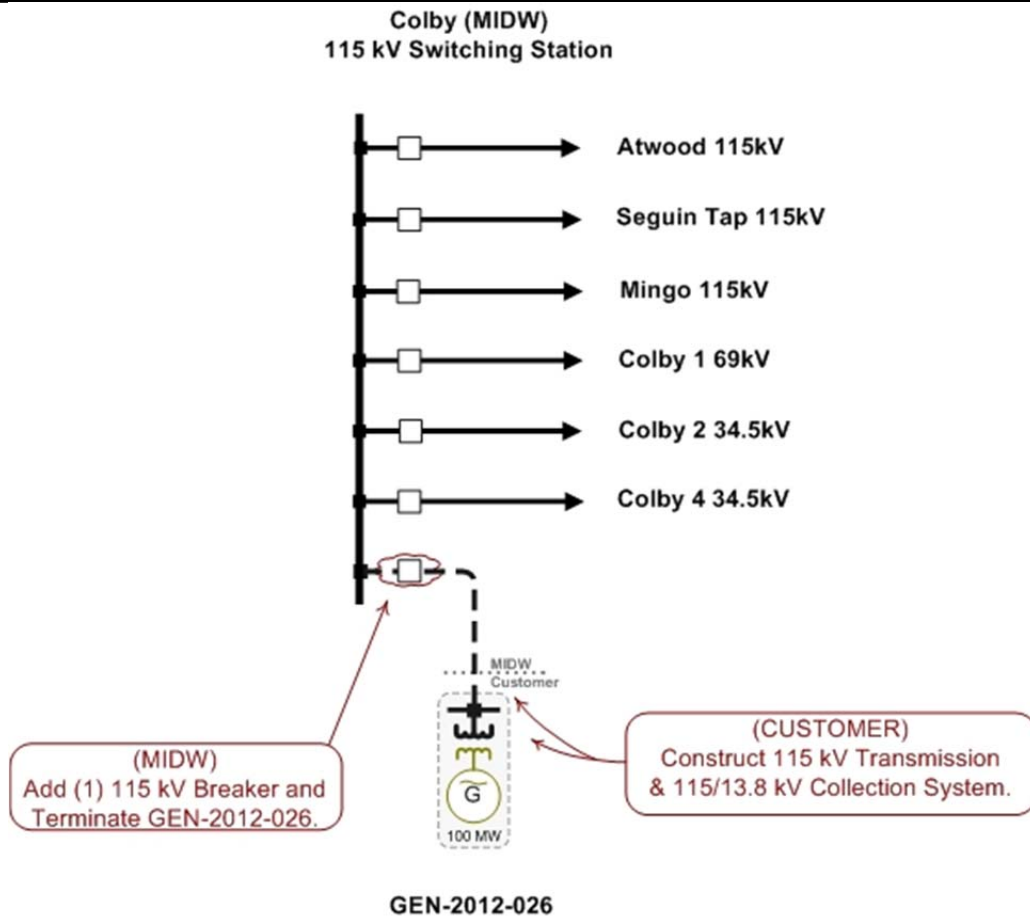
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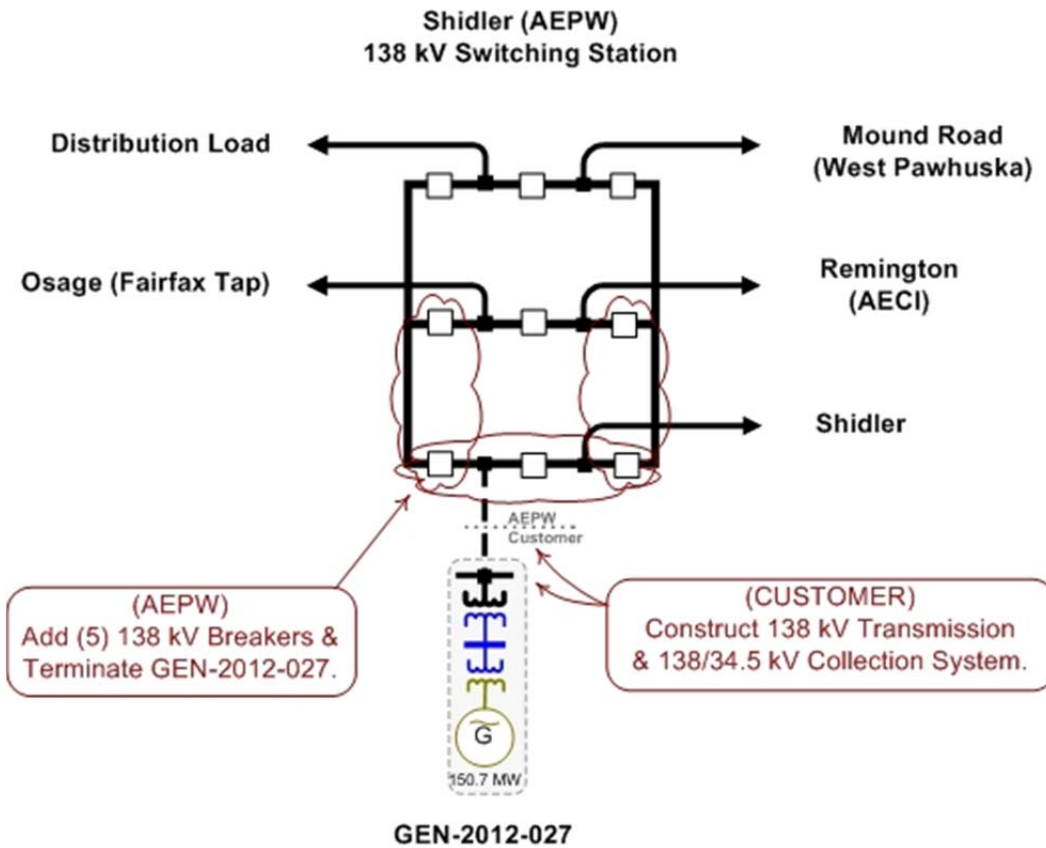
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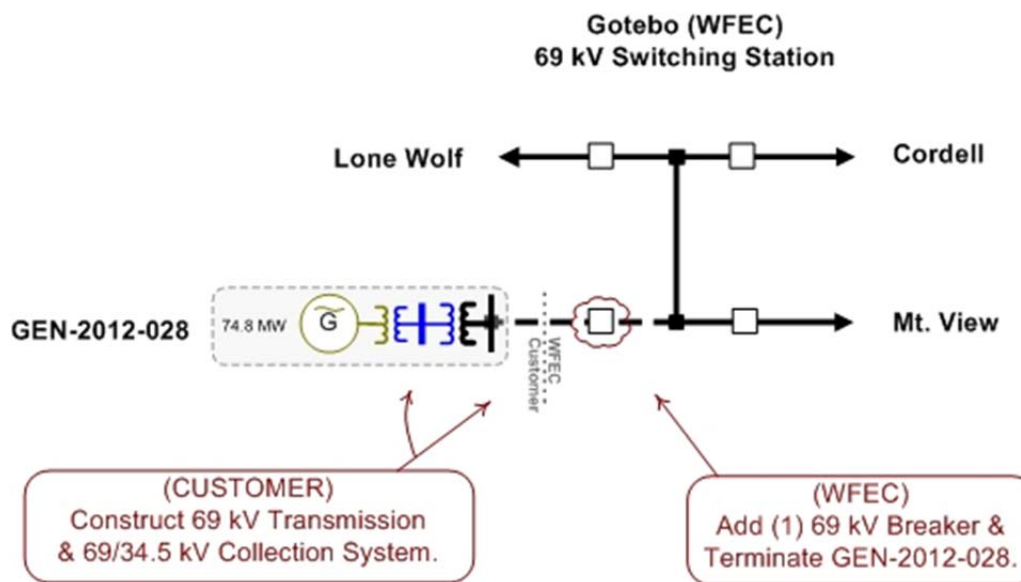
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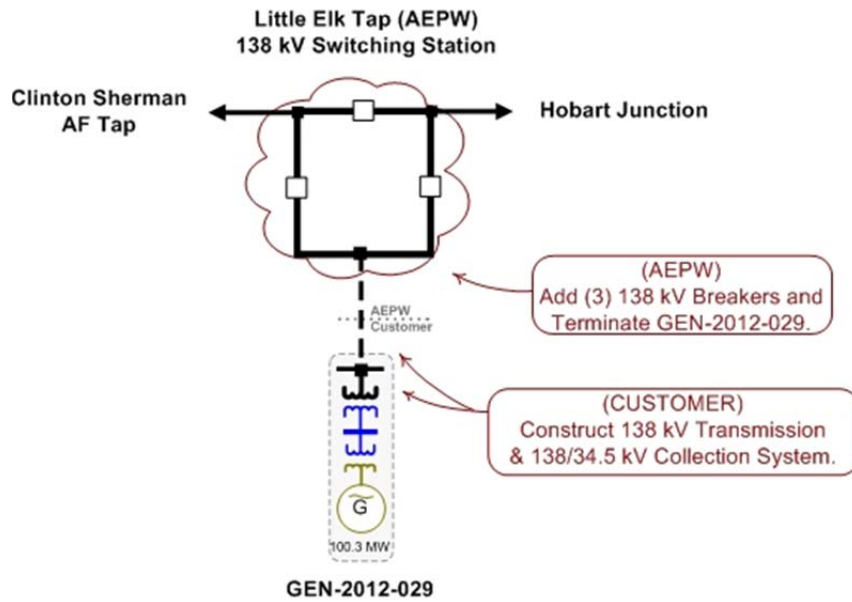
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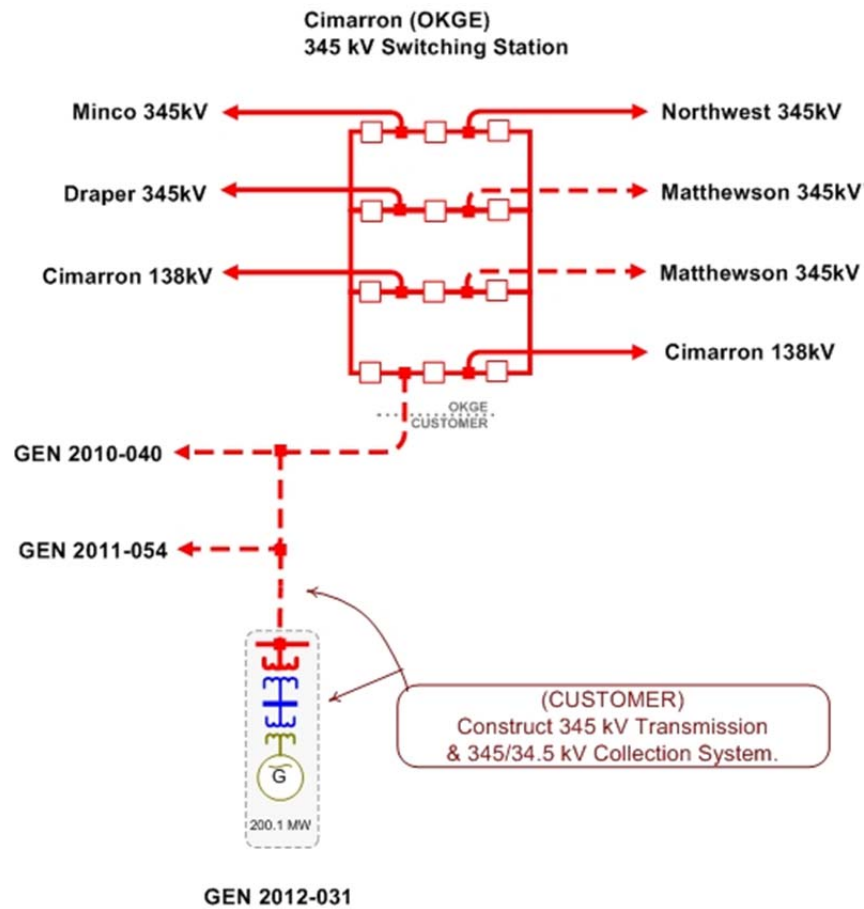
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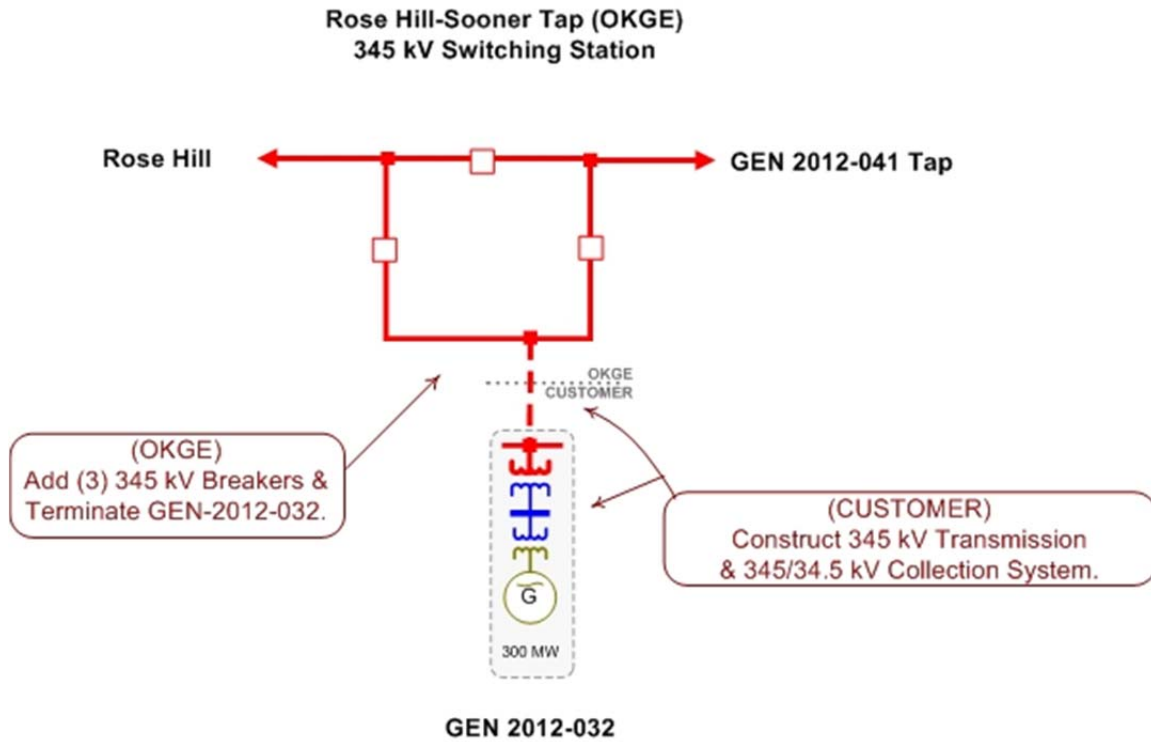
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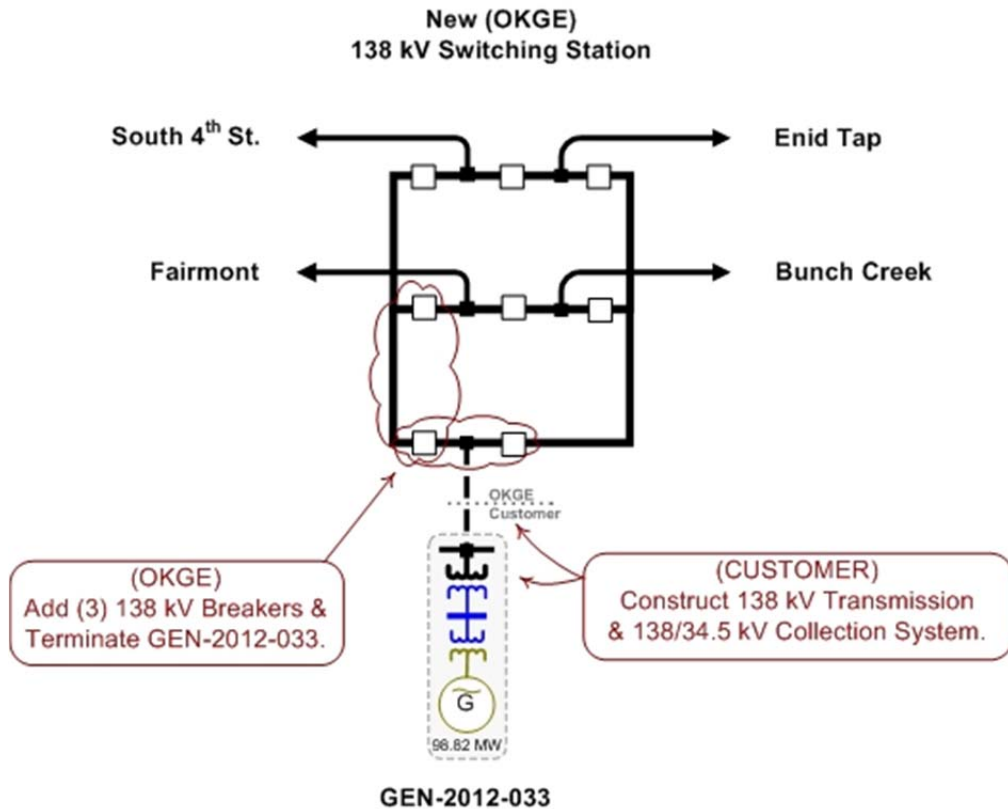
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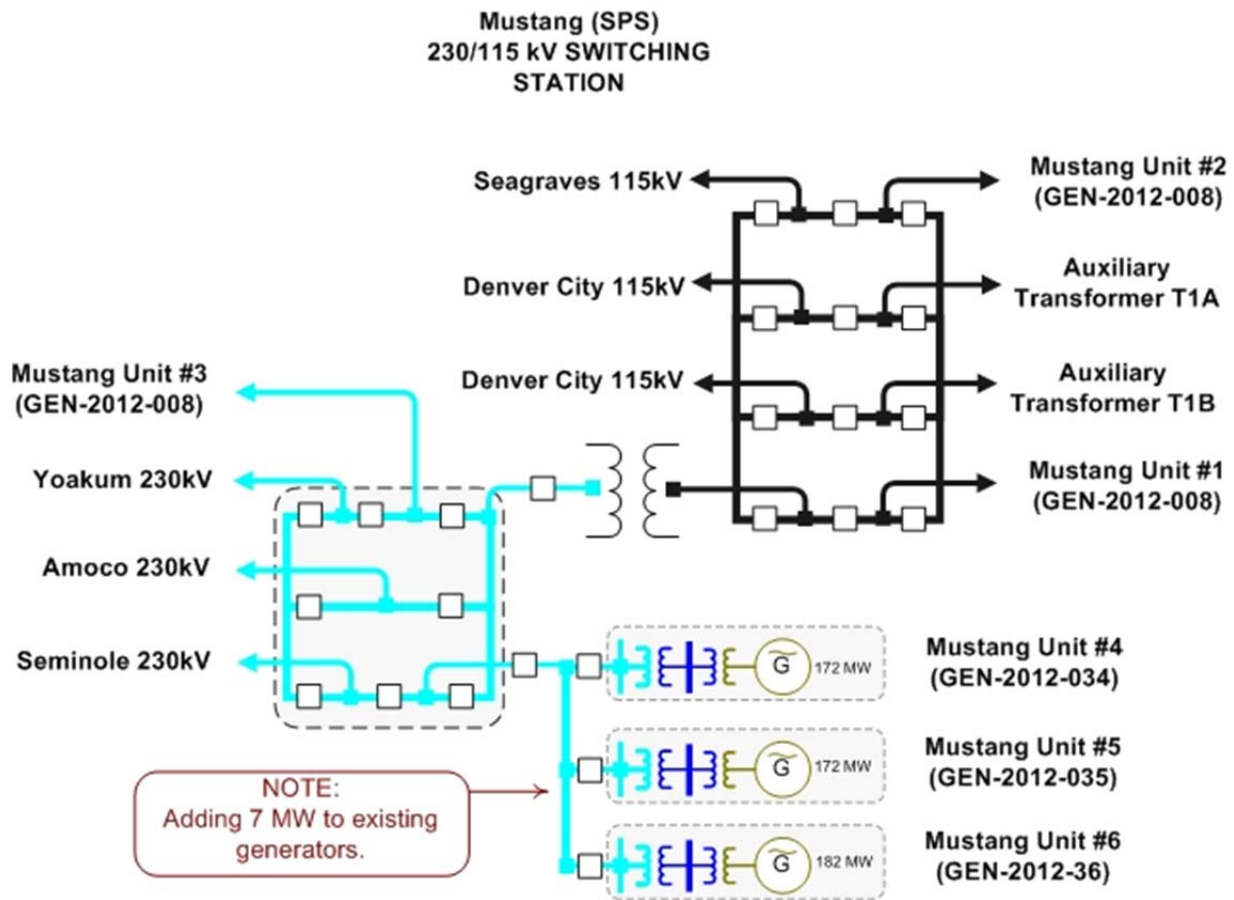
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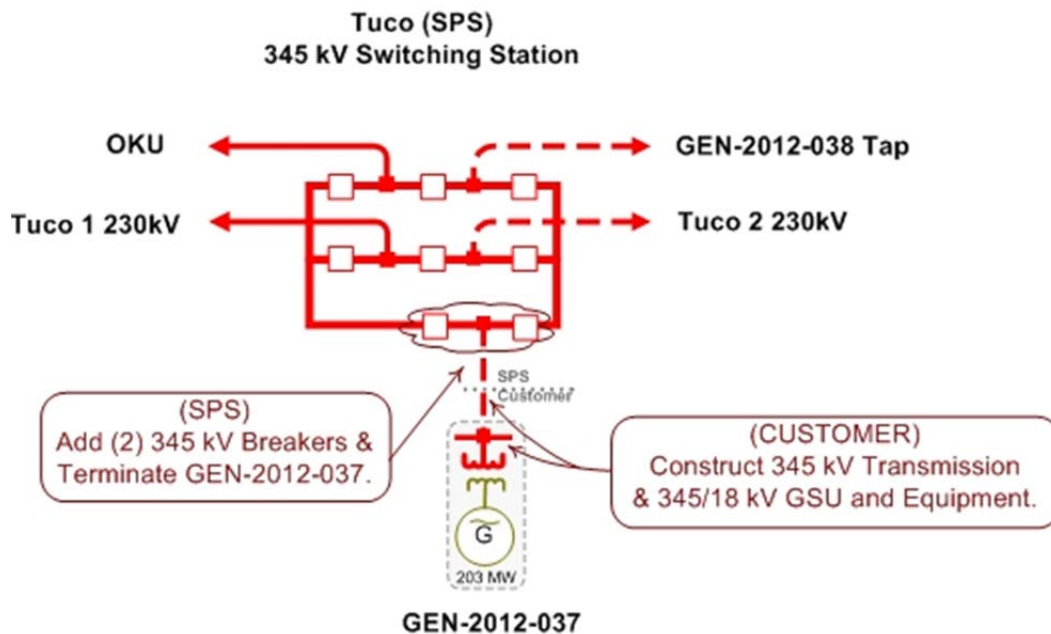
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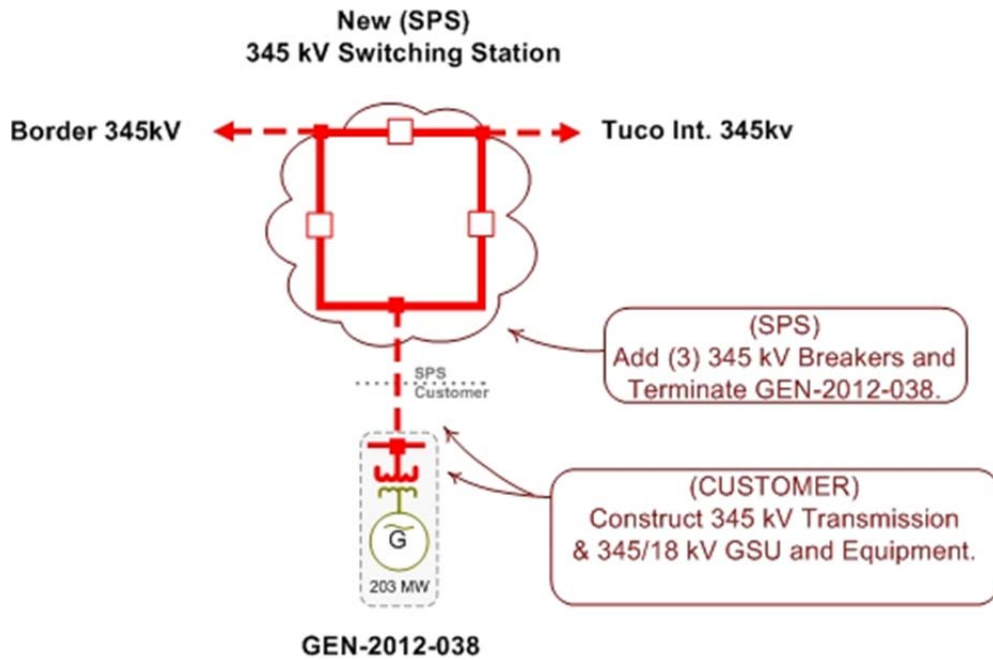
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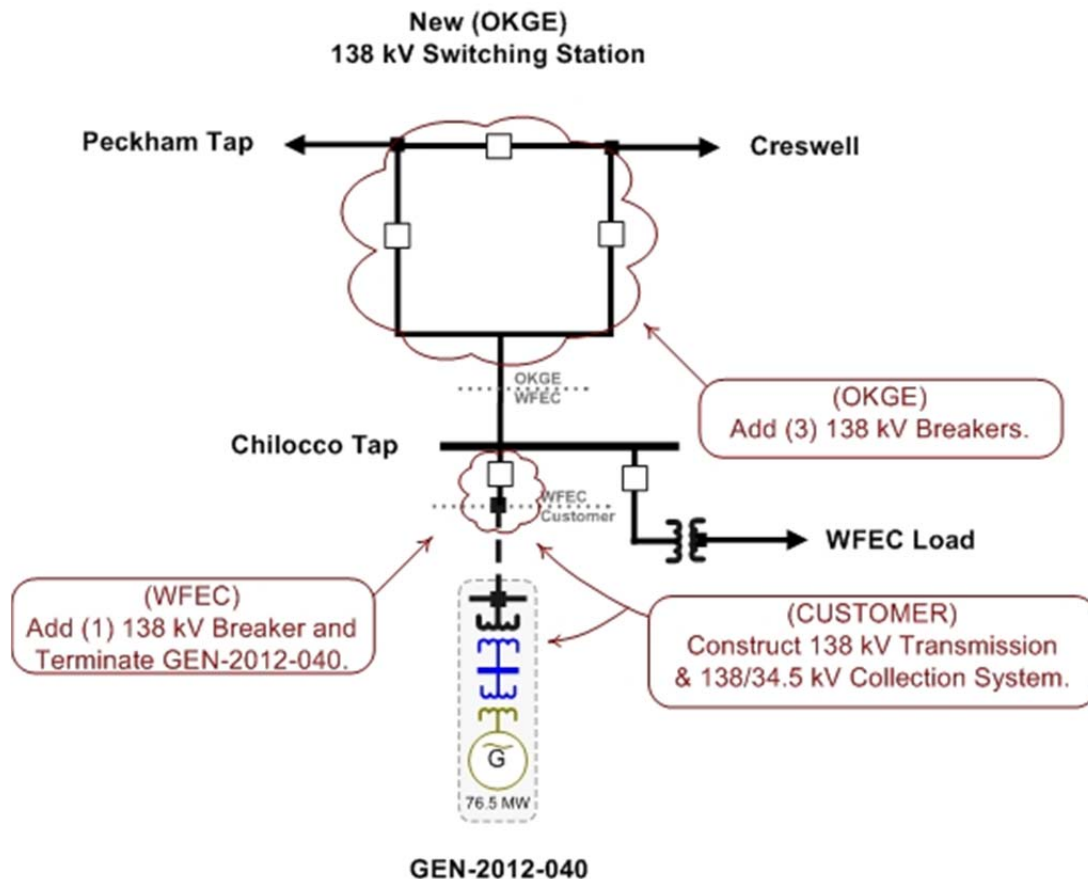
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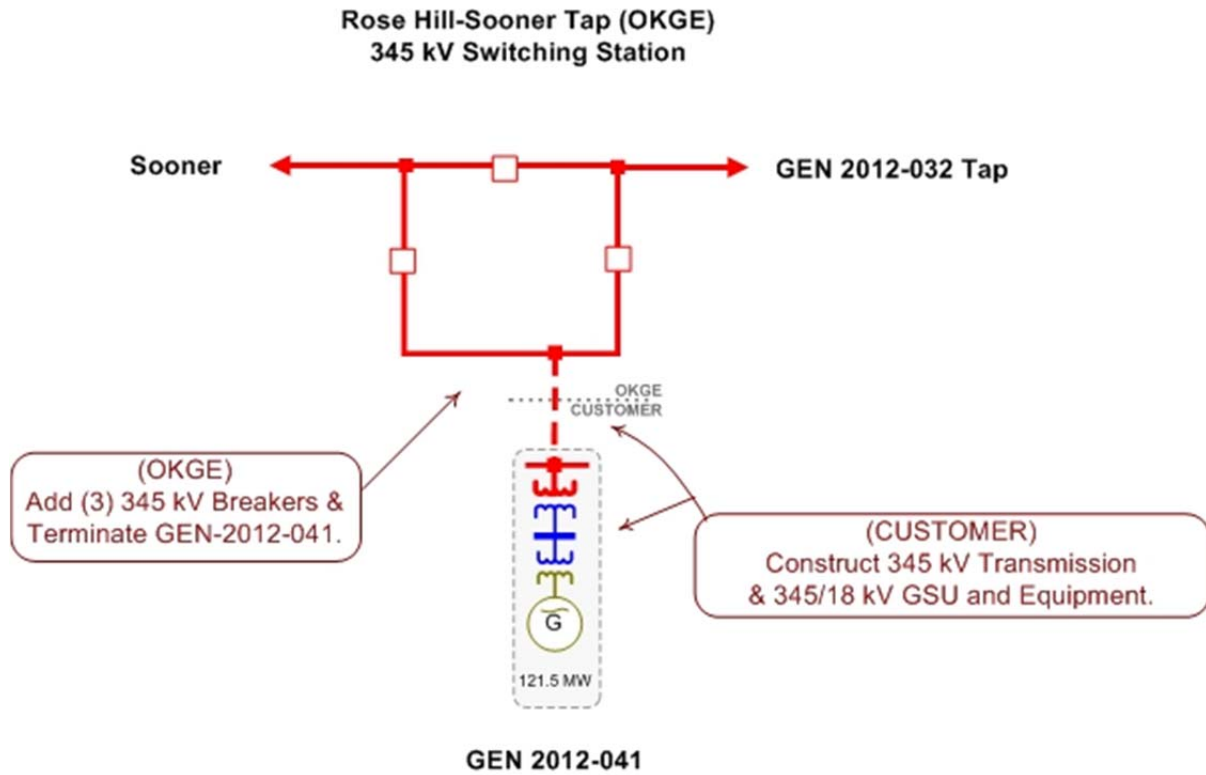
GEN-2012-038



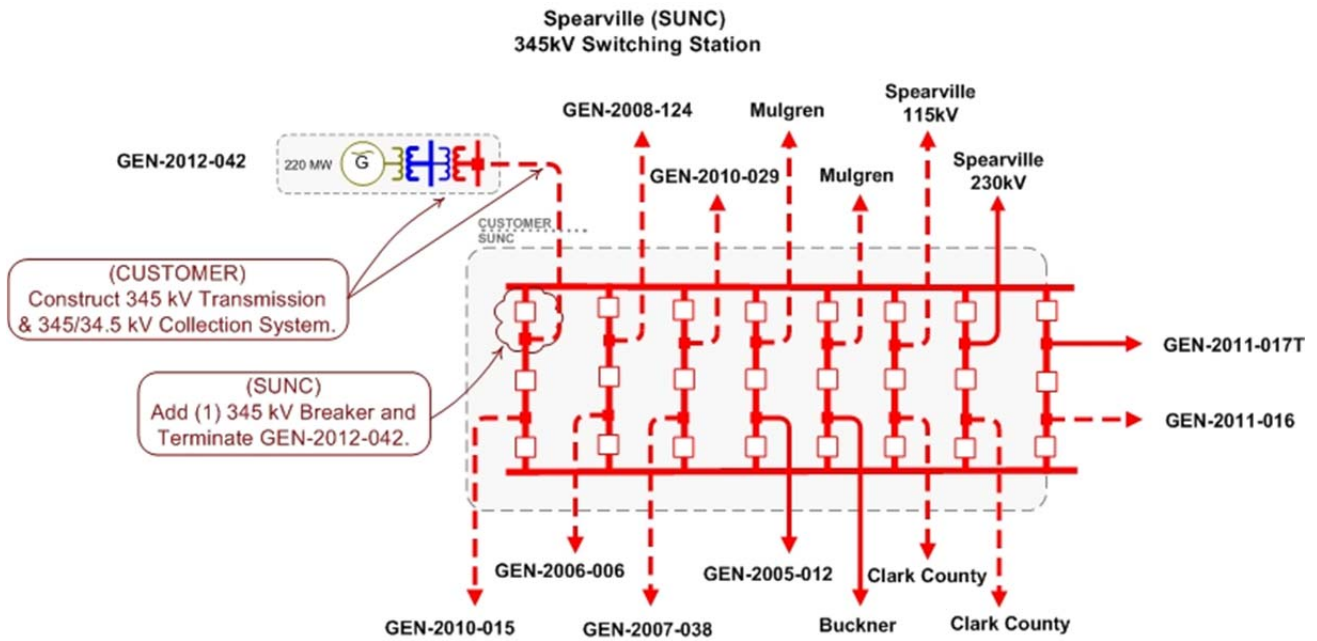
GEN-2012-040



GEN-2012-041



GEN-2012-042



E: Cost Allocation per Interconnection Request (Including Prior Queued Upgrades)

Important Note:

****WITHDRAWAL OF HIGHER QUEUED PROJECTS WILL CAUSE A RESTUDY
AND MAY RESULT IN HIGHER INTERCONNECTION COSTS****

This section shows each Generation Interconnection Request Customer, their current study impacted Network Upgrades, and the previously allocated upgrades upon which they rely to accommodate their interconnection to the transmission system.

The costs associated with the current study Network Upgrades are allocated to the Customers shown in this report.

In addition should a higher queued request, defined as one this study includes as a prior queued request, withdraw, the Network Upgrades assigned to the withdrawn request may be reallocated to the remaining requests that have an impact on the Network Upgrade under a restudy. Also, should a Interconnection Request choose to go into service prior to the operation date of any necessary Network Upgrades, the costs associated with those upgrades may be reallocated to the impacted Interconnection Request. The actual costs allocated to each Generation Interconnection Request Customer will be determined at the time of a restudy.

The required interconnection costs listed do not include all costs associated with the deliverability of the energy to final customers. These costs are determined by separate studies if the Customer submits a Transmission Service Request through SPP's Open Access Same Time Information System (OASIS) as required by Attachment Z1 of the SPP OATT. In addition, costs associated with a short circuit analysis will be allocated should the Interconnection Request Customer choose to execute a Facility Study Agreement.

Appendix E. Cost Allocation Per Request

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
ASGI-2012-002			
ASGI-2012-002 Interconnection Cost See One-Line Diagram.	Current Study	\$0.00	\$0.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	\$2,604,535.13	\$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	\$187,443.66	\$13,000,000.00
TUCO - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	\$1,832,123.70	\$141,869,298.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotransformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	\$386,984.77	\$15,000,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		\$3,500,000.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Border - Woodward 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Finney Switching Station - Holcomb 345kV CKT 2 Assigned to DISIS-2010-002 Customer	Previously Allocated		\$10,507,445.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Nichols - Harrington Mid 230kV CKT 1 Per GEN-2008-051 LOIS: Rebuild approximately 1 mile of 230kV @ 1825 amps	Previously Allocated		\$869,251.00
Nichols - Harrington West 230kV CKT 1 Per GEN-2008-051 LOIS: Rebuild approximately 1 mile of 230kV @ 1825 amps	Previously Allocated		\$869,251.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		\$300,000.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
	Current Study Total	\$5,011,087.26	

GEN-2012-015

GEN-2012-015 Interconnection Cost See One-Line Diagram.	Current Study	\$0.00	\$0.00
Plant X 230/115/13.2kV Transformer NRIS only upgrade: Build second Plant X 230/115/13.2kV Transformer	Current Study	\$9,000,000.00	\$9,000,000.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	\$3,605,947.17	\$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	\$259,513.46	\$13,000,000.00
TUCO - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	\$2,532,004.67	\$141,869,298.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotransformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	\$534,966.15	\$15,000,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		\$3,500,000.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Finney Switching Station - Holcomb 345KV CKT 2 Assigned to DISIS-2010-002 Customer	Previously Allocated		\$10,507,445.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Nichols - Harrington Mid 230kV CKT 1 Per GEN-2008-051 LOIS: Rebuild approximately 1 mile of 230kV @ 1825 amps	Previously Allocated		\$869,251.00
Nichols - Harrington West 230kV CKT 1 Per GEN-2008-051 LOIS: Rebuild approximately 1 mile of 230kV @ 1825 amps	Previously Allocated		\$869,251.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolc(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		\$300,000.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
	Current Study Total	\$15,932,431.45	

GEN-2012-016

Cimarron - Czech Hall 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 6 miles of 138kV line	Current Study	\$2,517,388.04	\$6,000,000.00
Cimarron - Draper 345kV CKT 1 NRIS only required upgrade: Replace Cimarron Wave Trap and Draper CT @ 1600 amps	Current Study	\$19,889.93	\$80,000.00
Cimarron - Haymaker 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 5 miles of 138kV line	Current Study	\$1,904,079.17	\$5,000,000.00
Cimarron - Sara 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 10 miles of 138kV line	Current Study	\$5,843,425.55	\$10,000,000.00
Czech Hall - Xerox 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 1 mile of 138kV line	Current Study	\$419,564.67	\$1,000,000.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2012-016 Interconnection Cost See One-Line Diagram.	Current Study	\$10,000,000.00	\$10,000,000.00
Wichita 345/138/13.8kV Transformer CKT 3 NRIS only required upgrade: Build Wichita 345/138/13.8kV transformer CKT 3	Current Study	\$15,000,000.00	\$15,000,000.00
Woodring - Hunter 345kV CKT 1 Upgrade terminal equipment at Woodring	Current Study	\$173,946.48	\$2,000,000.00
Woodward - Tatonga 345kV CKT 2 ERIS & NRIS Upgrade: Build second circuit from Woodward - Tatonga 345kV	Current Study	\$40,103,878.48	\$71,876,622.00
FPL Switch - Woodward 138kV CKT 1 Per 2010-AGP1-AFS-6	Not Active		\$6,509,948.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Border - Woodward 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Chisholm - Maize East 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 6 miles of 138kV	Previously Allocated		\$10,060,000.00
Cimarron 345/138/13.8kV CKT 3 Build Cimarron 345/138/13.8kV CKT 3	Previously Allocated		\$15,000,000.00
Evans Energy Center - Maize West 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 2.6 miles of 138kV	Previously Allocated		\$4,186,000.00
FPL Switch - Woodward 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 12 miles of 138kV line	Previously Allocated		\$6,509,948.00
Glass Mountain - Mooreland 138kV NRIS only required upgrade: Rebuild approximately 24 miles of 138kV line	Previously Allocated		\$15,072,467.00
Jeffrey Energy Center - Hoyt 345kV CKT 1 NRIS only required upgrade: Per 2011-AG2-AFS8	Previously Allocated		\$45,423,119.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		\$42,903,753.00
Mullergren - Reno 345kV Dbl CKT Build approximately 92 miles of new Dbl 345kV circuit from Mullergren - Reno @ 3000 amps	Previously Allocated		\$210,887,465.33
Northwest 345/138k/13.8kV Autotransformer CKT 3 NRIS only required upgrade: Per 2009-AG2-AFS6	Previously Allocated		\$15,000,000.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Spearville - Mullergren 345kV Dbl CKT Build approximately 85 miles of new Dbl 345kV circuit from Spearville - Mullergren @ 3000 amps	Previously Allocated		\$196,323,921.67
Tatonga - Matthewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Matthewson @ 3000 amps	Previously Allocated		\$104,260,473.00
Thistle - Flat Ridge 138kV CKT 1 Priority Project: Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$4,727,306.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$4,379,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
	Current Study Total	\$75,982,172.32	

GEN-2012-017

GEN-2012-017 Interconnection Cost See One-Line Diagram.	Current Study	\$0.00	\$0.00
Nashua 345/161/13.8KV Autotransformer CKT 1 Balanced Portfolio: Nashua/161/13.8 Autotransformer 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$4,230,000.00
	Current Study Total	\$0.00	

GEN-2012-018

Dixon County - Rasmussen 230kV CKT 1 Build approximately 40 miles of new 230kV	Current Study	\$40,000,000.00	\$40,000,000.00
GEN-2012-018 Interconnection Cost See One-Line Diagram.	Current Study	\$3,000,000.00	\$3,000,000.00
Hoskins - Dixon County - Twin Church 230kV Rerate per NPPD Facility Study	Previously Allocated		\$500,000.00
Twin Church - Dixon County 230kV Increase conductor clearances to accommodate 320MVA facility rating	Previously Allocated		\$100,000.00
	Current Study Total	\$43,000,000.00	

GEN-2012-020

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2012-020 Interconnection Cost See One-Line Diagram.	Current Study	\$6,000,000.00	\$6,000,000.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	\$84,272,945.58	\$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	\$6,064,970.70	\$13,000,000.00
TUCO - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	\$65,419,726.06	\$141,869,298.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotransformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	\$13,624,655.84	\$15,000,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		\$3,500,000.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Finney Switching Station - Holcomb 345KV CKT 2 Assigned to DISIS-2010-002 Customer	Previously Allocated		\$10,507,445.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		\$300,000.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
	Current Study Total	\$175,382,298.18	
GEN-2012-021			
GEN-2012-021 Interconnection Cost See One-Line Diagram.	Current Study	\$500,000.00	\$500,000.00
Harbine - Crete 115kV CKT 1 Build approximately 35 miles of 115kV from Harbine - Crete	Previously Allocated		\$17,200,000.00
Nashua 345/161/13.8KV Autotransformer CKT 1 Balanced Portfolio: Nashua/161/13.8 Autotransformer 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$4,230,000.00
	Current Study Total	\$500,000.00	
GEN-2012-023			
GEN-2012-023 Interconnection Cost See One-Line Diagram.	Current Study	\$100,000.00	\$100,000.00
Woodring - Hunter 345kV CKT 1 Upgrade terminal equipment at Woodring	Current Study	\$1,165,132.69	\$2,000,000.00
Cleveland - Sooner 345KV CKT 1 Balanced Portfolio: Cleveland - Sooner 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$58,692,000.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		\$42,903,753.00
	Current Study Total	\$1,265,132.69	
GEN-2012-024			
GEN-2012-024 Interconnection Cost See One-Line Diagram.	Current Study	\$5,000,000.00	\$5,000,000.00
Woodward - Tatonga 345kV CKT 2 ERIS & NRIS Upgrade: Build second circuit from Woodward - Tatonga 345kV	Current Study	\$12,200,390.26	\$71,876,622.00
Beaver County - Buckner 345kV Build approximately 90 miles of 345kV from Beaver County - Gray County @ 3000 amps	Previously Allocated		\$170,209,050.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		\$3,500,000.00

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Benton - Wichita 345kV CKT 1 NRIS only required upgrade: Replace terminal equipment at Benton and Wichita	Previously Allocated		\$1,183,000.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Clark - Thistle 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,130.00
Evans Energy Center - Maize West 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 2.6 miles of 138kV	Previously Allocated		\$4,186,000.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		\$42,903,753.00
Mullergren - Reno 345kV Dbl CKT Build approximately 92 miles of new Dbl 345kV circuit from Mullergren - Reno @ 3000 amps	Previously Allocated		\$210,887,465.33
Mullergren - Spearville 230kV CKT 1 NRIS only upgrade: Rebuild approximately 62 miles of 230kV line	Previously Allocated		\$36,107,610.00
Post Rock 345/230/13.8kV Autotransformer CKT 2 DISIS-2010-001 Restudy	Previously Allocated		\$13,749,527.00
Spearville - Mullergren 345kV Dbl CKT Build approximately 85 miles of new Dbl 345kV circuit from Spearville - Mullergren @ 3000 amps	Previously Allocated		\$196,323,921.67
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,130.00
Tatonga - Matthewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Matthewson @ 3000 amps	Previously Allocated		\$104,260,473.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
	Current Study Total		\$17,200,390.26

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2012-026			
GEN-2012-026 Interconnection Cost See One-Line Diagram.	Current Study	\$1,000,000.00	\$1,000,000.00
Woodring - Hunter 345kV CKT 1 Upgrade terminal equipment at Woodring	Current Study	\$173,244.21	\$2,000,000.00
Woodward - Tatonga 345kV CKT 2 ERIS & NRIS Upgrade: Build second circuit from Woodward - Tatonga 345kV	Current Study	\$5,735,491.29	\$71,876,622.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		\$3,500,000.00
Clark - Thistle 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,130.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Holcomb 345/115/13.8kV Transformer Build second 345/115/13.8kV transformer	Previously Allocated		\$15,000,000.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		\$42,903,753.00
Mullergren - Reno 345kV Dbl CKT Build approximately 92 miles of new Dbl 345kV circuit from Mullergren - Reno @ 3000 amps	Previously Allocated		\$210,887,465.33
Spearville - Mullergren 345kV Dbl CKT Build approximately 85 miles of new Dbl 345kV circuit from Spearville - Mullergren @ 3000 amps	Previously Allocated		\$196,323,921.67
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,130.00
Tatonga - Matthewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Matthewson @ 3000 amps	Previously Allocated		\$104,260,473.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$166,598,000.00
	Current Study Total	\$6,908,735.50	

GEN-2012-027

GEN-2012-027 Interconnection Cost See One-Line Diagram.	Current Study	\$3,000,000.00	\$3,000,000.00
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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Remington - Fairfax 138KV CKT 1 Increase conductor clearance	Current Study	\$4,635,850.08	\$5,000,000.00
Shidler - Fairfax - Webb Tap 138KV Increase conductor clearance	Current Study	\$5,000,000.00	\$5,000,000.00
Cleveland - Sooner 345KV CKT 1 Balanced Portfolio: Cleveland - Sooner 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$58,692,000.00
	Current Study Total	\$12,635,850.08	

GEN-2012-028

GEN-2012-028 Interconnection Cost See One-Line Diagram.	Current Study	\$1,300,000.00	\$1,300,000.00
GEN-2012-029 Tap - Hobart Junction 138kV CKT 1 Rebuild approximately 10 miles of 138kV	Current Study	\$225,376.41	\$10,000,000.00
Hobart Junction - Southwest 138kV Rebuild Hobart - Southwest 138kV	Current Study	\$3,327,077.71	\$43,000,000.00
Lake Creek- Lone Wolf 69kV CKT 1 Reset CT.	Current Study	\$2,028.00	\$2,028.00
	Current Study Total	\$4,854,482.12	

GEN-2012-029

GEN-2012-029 Interconnection Cost See One-Line Diagram.	Current Study	\$5,000,000.00	\$5,000,000.00
GEN-2012-029 Tap - Hobart Junction 138kV CKT 1 Rebuild approximately 10 miles of 138kV	Current Study	\$9,774,623.59	\$10,000,000.00
Hobart Junction - Southwest 138kV Rebuild Hobart - Southwest 138kV	Current Study	\$39,672,922.29	\$43,000,000.00
	Current Study Total	\$54,447,545.88	

GEN-2012-031

Cimarron - Czech Hall 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 6 miles of 138kV line	Current Study	\$3,482,611.96	\$6,000,000.00
Cimarron - Draper 345kV CKT 1 NRIS only required upgrade: Replace Cimarron Wave Trap and Draper CT @ 1600 amps	Current Study	\$29,565.88	\$80,000.00
Cimarron - Haymaker 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 5 miles of 138kV line	Current Study	\$3,095,920.83	\$5,000,000.00

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Cimarron - Sara 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 10 miles of 138kV line	Current Study	\$4,156,574.45	\$10,000,000.00
Czech Hall - Xerox 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 1 mile of 138kV line	Current Study	\$580,435.33	\$1,000,000.00
GEN-2012-031 Interconnection Cost See One-Line Diagram.	Current Study	\$100,000.00	\$100,000.00
Haymaker - Division 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 4 miles of 138kV line	Current Study	\$4,000,000.00	\$4,000,000.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Cimarron 345/138/13.8kV CKT 3 Build Cimarron 345/138/13.8kV CKT 3	Previously Allocated		\$15,000,000.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		\$42,903,753.00
Northwest 345/138k/13.8kV/Autotransformer CKT 3 NRIS only required upgrade: Per 2009-AG2-AFS6	Previously Allocated		\$15,000,000.00
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,130.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$166,598,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
	Current Study Total	\$15,445,108.45	

GEN-2012-032

Cimarron - Draper 345kV CKT 1 NRIS only required upgrade: Replace Cimarron Wave Trap and Draper CT @ 1600 amps	Current Study	\$12,691.57	\$80,000.00
GEN-2012-032 Interconnection Cost See One-Line Diagram.	Current Study	\$10,000,000.00	\$10,000,000.00
Cleveland - Sooner 345KV CKT 1 Balanced Portfolio: Cleveland - Sooner 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$58,692,000.00

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Northwest 345/138k/13.8kVAutotransformer CKT 3 NRIS only required upgrade: Per 2009-AG2-AFS6	Previously Allocated		\$15,000,000.00
	Current Study Total	\$10,012,691.57	
GEN-2012-033			
GEN-2012-033 Interconnection Cost See One-Line Diagram.	Current Study	\$3,000,000.00	\$3,000,000.00
Cleveland - Sooner 345KV CKT 1 Balanced Portfolio: Cleveland - Sooner 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$58,692,000.00
	Current Study Total	\$3,000,000.00	
GEN-2012-034			
GEN-2012-034 Interconnection Cost See One-Line Diagram.	Current Study	\$0.00	\$0.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	\$1,044,007.56	\$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	\$75,135.33	\$13,000,000.00
TUCO - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	\$811,981.53	\$141,869,298.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotransformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	\$151,131.08	\$15,000,000.00
Amoco Wasson - Oxy Tap 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$200,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Mustang - Denver North CKT 1 Reconductor approximately 3 miles of 115 kV	Previously Allocated		\$0.00

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Mustang - Denver South CKT 1 Reconductor approximately 3 miles of 115 kV	Previously Allocated		\$0.00
Mustang - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$200,000.00
Oxy Tap - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$200,000.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		\$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
	Current Study Total	\$2,082,255.50	

GEN-2012-035

GEN-2012-035 Interconnection Cost See One-Line Diagram.	Current Study	\$0.00	\$0.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	\$1,044,007.56	\$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	\$75,135.33	\$13,000,000.00
TUCO - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	\$811,981.53	\$141,869,298.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotranformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	\$151,131.08	\$15,000,000.00
Amoco Wasson - Oxy Tap 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$200,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Mustang - Denver North CKT 1 Reconductor approximately 3 miles of 115 kV	Previously Allocated		\$0.00
Mustang - Denver South CKT 1 Reconductor approximately 3 miles of 115 kV	Previously Allocated		\$0.00
Mustang - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$200,000.00
Oxy Tap - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$200,000.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		\$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
	Current Study Total	\$2,082,255.50	

GEN-2012-036

GEN-2012-036 Interconnection Cost See One-Line Diagram.	Current Study	\$0.00	\$0.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	\$1,044,007.56	\$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	\$75,135.33	\$13,000,000.00
TUCO - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	\$811,981.53	\$141,869,298.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotranformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	\$151,131.08	\$15,000,000.00
Amoco Wasson - Oxy Tap 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$200,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Mustang - Denver North CKT 1 Reconductor approximately 3 miles of 115 kV	Previously Allocated		\$0.00
Mustang - Denver South CKT 1 Reconductor approximately 3 miles of 115 kV	Previously Allocated		\$0.00
Mustang - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$200,000.00
Oxy Tap - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$200,000.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		\$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
	Current Study Total	\$2,082,255.50	

GEN-2012-037

GEN-2012-037 Interconnection Cost See One-Line Diagram.	Current Study	\$8,000,000.00	\$8,000,000.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	\$36,523,574.95	\$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	\$2,628,535.29	\$13,000,000.00
TUCO - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	\$29,681,440.69	\$141,869,298.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		\$3,500,000.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		\$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
	Current Study Total		\$76,833,550.93

GEN-2012-038

GEN-2012-038 Interconnection Cost See One-Line Diagram.	Current Study	\$9,000,000.00	\$9,000,000.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	\$50,496,355.46	\$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	\$3,634,130.91	\$13,000,000.00
TUCO - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	\$39,968,058.29	\$141,869,298.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		\$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
	Current Study Total	\$103,098,544.66	

GEN-2012-040

Cimarron - Draper 345kV CKT 1 NRIS only required upgrade: Replace Cimarron Wave Trap and Draper CT @ 1600 amps	Current Study	\$2,961.18	\$80,000.00
GEN-2012-040 Interconnection Cost See One-Line Diagram.	Current Study	\$6,000,000.00	\$6,000,000.00
Remington - Fairfax 138KV CKT 1 Increase conductor clearance	Current Study	\$364,149.92	\$5,000,000.00
Cleveland - Sooner 345KV CKT 1 Balanced Portfolio: Cleveland - Sooner 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$58,692,000.00
	Current Study Total	\$6,367,111.10	

GEN-2012-041

Cimarron - Draper 345kV CKT 1 NRIS only required upgrade: Replace Cimarron Wave Trap and Draper CT @ 1600 amps	Current Study	\$5,366.31	\$80,000.00
GEN-2012-041 Interconnection Cost See One-Line Diagram.	Current Study	\$10,000,000.00	\$10,000,000.00
Northwest 345/138k/13.8kVAutotransformer CKT 3 NRIS only required upgrade: Per 2009-AG2-AFS6	Previously Allocated		\$15,000,000.00
	Current Study Total	\$10,005,366.31	

GEN-2012-042

Cimarron - Draper 345kV CKT 1 NRIS only required upgrade: Replace Cimarron Wave Trap and Draper CT @ 1600 amps	Current Study	\$9,525.13	\$80,000.00
GEN-2012-042 Interconnection Cost See One-Line Diagram.	Current Study	\$8,000,000.00	\$8,000,000.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Woodring - Hunter 345kV CKT 1 Upgrade terminal equipment at Woodring	Current Study	\$487,676.63	\$2,000,000.00
Woodward - Tatonga 345kV CKT 2 ERIS & NRIS Upgrade: Build second circuit from Woodward - Tatonga 345kV	Current Study	\$13,836,861.97	\$71,876,622.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		\$3,500,000.00
Benton - Wichita 345kV CKT 1 NRIS only required upgrade: Replace terminal equipment at Benton and Wichita	Previously Allocated		\$1,183,000.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$249,247,072.00
Clark - Thistle 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,130.00
Evans Energy Center - Maize West 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 2.6 miles of 138kV	Previously Allocated		\$4,186,000.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		\$42,903,753.00
Mullergren - Reno 345kV Dbl CKT Build approximately 92 miles of new Dbl 345kV circuit from Mullergren - Reno @ 3000 amps	Previously Allocated		\$210,887,465.33
Mullergren - Spearville 230kV CKT 1 NRIS only upgrade: Rebuild approximately 62 miles of 230kV line	Previously Allocated		\$36,107,610.00
Spearville - Mullergren 345kV Dbl CKT Build approximately 85 miles of new Dbl 345kV circuit from Spearville - Mullergren @ 3000 amps	Previously Allocated		\$196,323,921.67
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,130.00
Tatonga - Matthewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Matthewson @ 3000 amps	Previously Allocated		\$104,260,473.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$207,782,000.00
	Current Study Total	\$22,334,063.73	

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TOTAL CURRENT STUDY COSTS:		\$666,463,328.99	

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

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F: Cost Allocation per Proposed Study Network Upgrade

Important Note:

****WITHDRAWAL OF HIGHER QUEUED PROJECTS WILL CAUSE A RESTUDY
AND MAY RESULT IN HIGHER INTERCONNECTION COSTS****

This section shows each Direct Assigned Facility and Network Upgrade and the Generation Interconnection Request Customer(s) which have an impact in this study assuming all higher queued projects remain in the queue and achieve commercial operation.

The required interconnection costs listed do not include all costs associated with the deliverability of the energy to final customers. These costs are determined by separate studies if the Customer submits a Transmission Service Request through SPP's Open Access Same Time Information System (OASIS) as required by Attachment Z1 of the SPP OATT. In addition, costs associated with a short circuit analysis will be allocated should the Interconnection Request Customer choose to execute a Facility Study Agreement.

There may be additional costs allocated to each Customer. See Appendix E for more details.

Appendix F. Cost Allocation by Upgrade

ASGI-2012-002 Interconnection Cost \$0.00

See One-Line Diagram.

ASGI-2012-002 \$0.00

Total Allocated Costs \$0.00

Cimarron - Czech Hall 138kV CKT 1 \$6,000,000.00

NRIS only required upgrade: Rebuild approximately 6 miles of 138kV line

GEN-2012-016 \$2,517,388.04

GEN-2012-031 \$3,482,611.96

Total Allocated Costs \$6,000,000.00

Cimarron - Draper 345kV CKT 1 \$80,000.00

NRIS only required upgrade: Replace Cimarron Wave Trap and Draper CT @ 1600 amps

GEN-2012-016 \$19,889.93

GEN-2012-031 \$29,565.88

GEN-2012-032 \$12,691.57

GEN-2012-040 \$2,961.18

GEN-2012-041 \$5,366.31

GEN-2012-042 \$9,525.13

Total Allocated Costs \$80,000.00

Cimarron - Haymaker 138kV CKT 1 \$5,000,000.00

NRIS only required upgrade: Rebuild approximately 5 miles of 138kV line

GEN-2012-016 \$1,904,079.17

GEN-2012-031 \$3,095,920.83

Total Allocated Costs \$5,000,000.00

Cimarron - Sara 138kV CKT 1 \$10,000,000.00

NRIS only required upgrade: Rebuild approximately 10 miles of 138kV line

GEN-2012-016 \$5,843,425.55

GEN-2012-031 \$4,156,574.45

Total Allocated Costs \$10,000,000.00

Czech Hall - Xerox 138kV CKT 1 \$1,000,000.00

NRIS only required upgrade: Rebuild approximately 1 mile of 138kV line

GEN-2012-016 \$419,564.67

GEN-2012-031 \$580,435.33

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

	Total Allocated Costs	\$1,000,000.00
Dixon County - Rasmussen 230kV CKT 1		\$40,000,000.00
Build approximately 40 miles of new 230kV		
	GEN-2012-018	\$40,000,000.00
	Total Allocated Costs	\$40,000,000.00
GEN-2012-015 Interconnection Cost		\$0.00
See One-Line Diagram.		
	GEN-2012-015	\$0.00
	Total Allocated Costs	\$0.00
GEN-2012-016 Interconnection Cost		\$10,000,000.00
See One-Line Diagram.		
	GEN-2012-016	\$10,000,000.00
	Total Allocated Costs	\$10,000,000.00
GEN-2012-017 Interconnection Cost		\$0.00
See One-Line Diagram.		
	GEN-2012-017	\$0.00
	Total Allocated Costs	\$0.00
GEN-2012-018 Interconnection Cost		\$3,000,000.00
See One-Line Diagram.		
	GEN-2012-018	\$3,000,000.00
	Total Allocated Costs	\$3,000,000.00
GEN-2012-020 Interconnection Cost		\$6,000,000.00
See One-Line Diagram.		
	GEN-2012-020	\$6,000,000.00
	Total Allocated Costs	\$6,000,000.00
GEN-2012-021 Interconnection Cost		\$500,000.00
See One-Line Diagram.		
	GEN-2012-021	\$500,000.00
	Total Allocated Costs	\$500,000.00
GEN-2012-023 Interconnection Cost		\$100,000.00
See One-Line Diagram.		
	GEN-2012-023	\$100,000.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

	Total Allocated Costs	\$100,000.00
GEN-2012-024 Interconnection Cost		\$5,000,000.00
See One-Line Diagram.		
	GEN-2012-024	\$5,000,000.00
	Total Allocated Costs	\$5,000,000.00
GEN-2012-026 Interconnection Cost		\$1,000,000.00
See One-Line Diagram.		
	GEN-2012-026	\$1,000,000.00
	Total Allocated Costs	\$1,000,000.00
GEN-2012-027 Interconnection Cost		\$3,000,000.00
See One-Line Diagram.		
	GEN-2012-027	\$3,000,000.00
	Total Allocated Costs	\$3,000,000.00
GEN-2012-028 Interconnection Cost		\$1,300,000.00
See One-Line Diagram.		
	GEN-2012-028	\$1,300,000.00
	Total Allocated Costs	\$1,300,000.00
GEN-2012-029 Interconnection Cost		\$5,000,000.00
See One-Line Diagram.		
	GEN-2012-029	\$5,000,000.00
	Total Allocated Costs	\$5,000,000.00
GEN-2012-029 Tap - Hobart Junction 138kV CKT 1		\$10,000,000.00
Rebuild approximately 10 miles of 138kV		
	GEN-2012-028	\$225,376.41
	GEN-2012-029	\$9,774,623.59
	Total Allocated Costs	\$10,000,000.00
GEN-2012-031 Interconnection Cost		\$100,000.00
See One-Line Diagram.		
	GEN-2012-031	\$100,000.00
	Total Allocated Costs	\$100,000.00
GEN-2012-032 Interconnection Cost		\$10,000,000.00
See One-Line Diagram.		
	GEN-2012-032	\$10,000,000.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

	Total Allocated Costs	\$10,000,000.00
GEN-2012-033 Interconnection Cost		\$3,000,000.00
See One-Line Diagram.		
	GEN-2012-033	\$3,000,000.00
	Total Allocated Costs	\$3,000,000.00
GEN-2012-034 Interconnection Cost		\$0.00
See One-Line Diagram.		
	GEN-2012-034	\$0.00
	Total Allocated Costs	\$0.00
GEN-2012-035 Interconnection Cost		\$0.00
See One-Line Diagram.		
	GEN-2012-035	\$0.00
	Total Allocated Costs	\$0.00
GEN-2012-036 Interconnection Cost		\$0.00
See One-Line Diagram.		
	GEN-2012-036	\$0.00
	Total Allocated Costs	\$0.00
GEN-2012-037 Interconnection Cost		\$8,000,000.00
See One-Line Diagram.		
	GEN-2012-037	\$8,000,000.00
	Total Allocated Costs	\$8,000,000.00
GEN-2012-038 Interconnection Cost		\$9,000,000.00
See One-Line Diagram.		
	GEN-2012-038	\$9,000,000.00
	Total Allocated Costs	\$9,000,000.00
GEN-2012-040 Interconnection Cost		\$6,000,000.00
See One-Line Diagram.		
	GEN-2012-040	\$6,000,000.00
	Total Allocated Costs	\$6,000,000.00
GEN-2012-041 Interconnection Cost		\$10,000,000.00
See One-Line Diagram.		
	GEN-2012-041	\$10,000,000.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

	Total Allocated Costs	\$10,000,000.00
<hr/>		
GEN-2012-042 Interconnection Cost		\$8,000,000.00
See One-Line Diagram.		
	GEN-2012-042	\$8,000,000.00
	Total Allocated Costs	\$8,000,000.00
<hr/>		
Haymaker - Division 138kV CKT 1		\$4,000,000.00
NRIS only required upgrade: Rebuild approximately 4 miles of 138kV line		
	GEN-2012-031	\$4,000,000.00
	Total Allocated Costs	\$4,000,000.00
<hr/>		
Hobart Junction - Southwest 138kV		\$43,000,000.00
Rebuild Hobart - Southwest 138kV		
	GEN-2012-028	\$3,327,077.71
	GEN-2012-029	\$39,672,922.29
	Total Allocated Costs	\$43,000,000.00
<hr/>		
Lake Creek- Lone Wolf 69kV CKT 1		\$2,028.00
Reset CT.		
	GEN-2012-028	\$2,028.00
	Total Allocated Costs	\$2,028.00
<hr/>		
Plant X 230/115/13.2kV Transformer		\$9,000,000.00
NRIS only upgrade: Build second Plant X 230/115/13.2kV Transformer		
	GEN-2012-015	\$9,000,000.00
	Total Allocated Costs	\$9,000,000.00
<hr/>		
Remington - Fairfax 138KV CKT 1		\$5,000,000.00
Increase conductor clearance		
	GEN-2012-027	\$4,635,850.08
	GEN-2012-040	\$364,149.92
	Total Allocated Costs	\$5,000,000.00
<hr/>		
Shidler - Fairfax - Webb Tap 138kV		\$5,000,000.00
Increase conductor clearance		
	GEN-2012-027	\$5,000,000.00
	Total Allocated Costs	\$5,000,000.00
<hr/>		
Sweetwater - Gracemont 345kV CKT 1		\$180,635,381.00
Build approximately 107 miles of new 345kV		

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

ASGI-2012-002	\$2,604,535.13
GEN-2012-015	\$3,605,947.17
GEN-2012-020	\$84,272,945.58
GEN-2012-034	\$1,044,007.56
GEN-2012-035	\$1,044,007.56
GEN-2012-036	\$1,044,007.56
GEN-2012-037	\$36,523,574.95
GEN-2012-038	\$50,496,355.46
Total Allocated Costs	\$180,635,381.00

Sweetwater Substation

\$13,000,000.00

Build new Sweetwater Substation

ASGI-2012-002	\$187,443.66
GEN-2012-015	\$259,513.46
GEN-2012-020	\$6,064,970.70
GEN-2012-034	\$75,135.33
GEN-2012-035	\$75,135.33
GEN-2012-036	\$75,135.33
GEN-2012-037	\$2,628,535.29
GEN-2012-038	\$3,634,130.91
Total Allocated Costs	\$13,000,000.00

TUCO - Sweetwater 345kV CKT 2

\$141,869,298.00

Build approximately 163 miles of new 345kV

ASGI-2012-002	\$1,832,123.70
GEN-2012-015	\$2,532,004.67
GEN-2012-020	\$65,419,726.06
GEN-2012-034	\$811,981.53
GEN-2012-035	\$811,981.53
GEN-2012-036	\$811,981.53
GEN-2012-037	\$29,681,440.69
GEN-2012-038	\$39,968,058.29
Total Allocated Costs	\$141,869,298.00

TUCO 345/230/13.2kV Autotransformer CKT 3

\$15,000,000.00

Build TUCO 345/230/13.2kV Autotransformer CKT 3 at new substation adjacent to the TUCO substation

ASGI-2012-002	\$386,984.77
GEN-2012-015	\$534,966.15
GEN-2012-020	\$13,624,655.84

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

GEN-2012-034	\$151,131.08
GEN-2012-035	\$151,131.08
GEN-2012-036	\$151,131.08
Total Allocated Costs	\$15,000,000.00

Wichita 345/138/13.8kV Transformer CKT 3 **\$15,000,000.00**

NRIS only required upgrade: Build Wichita 345/138/13.8kV transformer CKT 3

GEN-2012-016	\$15,000,000.00
Total Allocated Costs	\$15,000,000.00

Woodring - Hunter 345kV CKT 1 **\$2,000,000.00**

Upgrade terminal equipment at Woodring

GEN-2012-016	\$173,946.48
GEN-2012-023	\$1,165,132.69
GEN-2012-026	\$173,244.21
GEN-2012-042	\$487,676.63
Total Allocated Costs	\$2,000,000.00

Woodward - Tatonga 345kV CKT 2 **\$71,876,622.00**

ERIS & NRIS Upgrade: Build second circuit from Woodward - Tatonga 345kV

GEN-2012-016	\$40,103,878.48
GEN-2012-024	\$12,200,390.26
GEN-2012-026	\$5,735,491.29
GEN-2012-042	\$13,836,861.97
Total Allocated Costs	\$71,876,622.00

* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

G: Power Flow Analysis (Constraints Used For Mitigation)

See next page.

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FNSL-Blown up	03ALL	0	13G	ASGI 12 002		Non-Converged Contingency	1792	0.04086	-	G12-11T 345.00 - POST ROCK 345KV CKT 1
FNSL-Blown up	03ALL	0	13G	G12 015		Non-Converged Contingency	1792	0.04089	-	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	00NR	0	13SP	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03864	111.9638	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	00NR	2	13SP	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03865	111.9509	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	00NR	0	13SP	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03864	111.9476	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03865	111.9347	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03864	109.8158	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	00NR	2	13SP	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03865	109.8034	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	00NR	0	13SP	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03864	109.7995	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03865	109.787	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06NR	2	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03178	103.2632	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06NR	2	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03178	103.248	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06NR	0	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03176	103.2234	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06NR	2	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03178	103.217	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06NR	0	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03176	103.2082	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06NR	2	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03178	103.2018	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06NR	0	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03176	103.1772	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06NR	0	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03176	103.162	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06NR	2	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03746	100.8163	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06NR	2	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03746	100.7719	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06NR	0	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03743	100.6151	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06NR	0	13G	G12 015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03743	100.5705	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06NR	0	13G	G12 015	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.03527	102.2635	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06NR	0	13G	G12 015	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.03527	101.717	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06NR	0	13G	G12 015	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.03448	100.0726	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	00NR	0	23SP	G12 016	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.12274	103.8461	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	00NR	2	23SP	G12 016	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08837	103.8261	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	00NR	0	23SP	G12 016	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.04525	116.8909	BENTON - WICHITA 345KV CKT 1
FDNS	00NR	2	23SP	G12 016	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.03239	116.8678	BENTON - WICHITA 345KV CKT 1
FDNS	00NR	0	18SP	G12 016	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.04777	105.418	BENTON - WICHITA 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10111	123.0129	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10159	122.2489	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10338	120.1879	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10245	119.1013	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.13002	119.0787	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09095	118.7756	CLEVELAND - SOONER 345KV CKT 1
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09026	116.7212	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	2	18WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09847	116.3485	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09359	116.3028	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1199	115.6525	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09335	115.5803	CLEVELAND - SOONER 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08905	114.8135	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1199	114.6405	CIMARRON - MINCO 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08898	114.5673	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	18WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09741	114.3394	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08961	114.206	CIMARRON - SARA 138KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08931	114.0004	CLEVELAND - TULSA NORTH 345KV CKT 1
FDNS	00NR	0	18WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10338	113.3982	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	2	18WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10017	113.2721	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08961	112.8771	MCLAIN - SARA 138KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08718	112.8075	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10152	112.7314	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00NR	2	18WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08833	112.5403	CLEVELAND - SOONER 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08718	112.3612	CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08718	112.3435	MORGAN - XEROX 138KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08718	112.2251	MORGAN - MUSTANG 138KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	112.1011	GEN509416 1-TURK GENERATION
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	112.0358	GEN509403 1-PIRKEY GENERATION
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	111.9418	GEN520947 1-HUGO1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08765	111.8323	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12459	111.4768	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09024	111.4516	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08705	111.4504	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08497	111.4366	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08705	111.3421	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	111.3075	GEN509406 1-WELSH #3
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	111.3073	GEN509405 1-WELSH #2
FDNS	00NR	0	13SP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.13242	111.2328	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09023	111.2097	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	111.156	GEN501801 1-DOLET HILLS UNIT1
FDNS	00NR	2	18WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08877	111.1167	CIMARRON - SARA 138KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	111.1128	GEN336153 1-WATERFORD UNIT#3
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09287	110.9762	CIMARRON - SARA 138KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08755	110.9232	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	110.8341	GEN509404 1-WELSH #1
FDNS	00NR	0	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09213	110.7765	CLEVELAND - TULSA NORTH 345KV CKT 1
FDNS	00NR	2	13WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	110.7231	GEN515042 1-SEMINOLE 3G
FDNS	00NR	2	18WP	G12 016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09121	110.706	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08816	110.6055	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12872	110.5948	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	110.5104	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08816	110.4844	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	110.4357	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	110.4241	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08497	110.3874	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	110.2941	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	110.149	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09791	110.0447	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12275	110.0185	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08816	109.9433	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09159	109.9409	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09104	109.8877	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.11085	109.8398	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08211	109.773	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	109.7308	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08191	109.7236	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08713	109.6721	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09287	109.6419	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08822	109.6317	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09214	109.6124	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08191	109.5593	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0919	109.5214	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08731	109.5087	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08683	109.4912	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08727	109.4791	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08701	109.4779	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09408	109.4631	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08919	109.4604	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08211	109.4355	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08511	109.4286	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10664	109.4076	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08707	109.3749	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	109.3362	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	109.325	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08695	109.3164	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08723	109.2838	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0881	109.2002	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08735	109.1989	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08754	109.1955	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08633	109.1835	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08191	109.1791	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.088	109.1649	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08702	109.1647	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09214	109.1637	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09214	109.1482	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08682	109.1259	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08687	109.0583	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08633	109.0567	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09214	109.0298	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12275	109.0294	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08177	109.0104	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.9807	GEN303007 1-1BC2 U2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.9738	GEN303006 1-1BC2 U1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.9734	GEN303008 1-1BC2 U3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08746	108.9666	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08746	108.9572	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08757	108.9297	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08757	108.9297	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08813	108.9043	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08674	108.8966	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08695	108.862	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.8587	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0868	108.8316	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.8253	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.8217	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	108.8123	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08813	108.8084	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08717	108.8023	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08712	108.7814	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08674	108.756	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0868	108.7508	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	108.7446	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08669	108.7433	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08753	108.743	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08705	108.7367	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08682	108.7363	HOYT - STRANGER CREEK 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08678	108.7336	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08687	108.7199	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08722	108.7051	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08672	108.6888	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0899	108.6731	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08908	108.6722	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08687	108.6662	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	108.6655	GEN520947 1-HUGO1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.6543	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.645	GEN336831 1-BAXTER WILSON SES	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.087	108.6296	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09057	108.6016	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08671	108.5964	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09094	108.5861	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.5775	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.087	108.5715	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08678	108.5713	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09128	108.5692	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08773	108.5624	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.5618	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.5614	GEN337041 1-GERALD ANDRUS	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08796	108.5564	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.5538	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.5532	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08709	108.5521	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.5395	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.5364	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08546	108.5109	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08677	108.4994	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.4951	GEN562052 1-G11_040_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08671	108.49	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.4863	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08668	108.4836	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.4769	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08671	108.4673	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08668	108.4666	LONEOAK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09218	108.4449	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08641	108.4395	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08753	108.4076	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08659	108.3937	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08509	108.383	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08698	108.3803	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08659	108.3791	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08684	108.3735	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08294	108.3656	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.3641	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.3641	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.3483	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08678	108.3464	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08659	108.3342	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08669	108.3318	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.3251	GEN336170 1-GULF OXY U4	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08664	108.32	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08688	108.3096	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08688	108.3064	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08659	108.3051	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08654	108.3048	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	108.2968	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0867	108.2807	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0868	108.2722	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09048	108.251	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08684	108.2487	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08318	108.2483	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08668	108.2443	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0869	108.2368	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.13114	108.2364	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08702	108.2363	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08753	108.2339	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08692	108.2148	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08692	108.2024	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08509	108.1933	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0818	108.182	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08653	108.1699	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08672	108.1634	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08659	108.1567	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08679	108.1515	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08655	108.1512	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08616	108.1415	ANADARKO - GEORGIA 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08641	108.139	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08656	108.1371	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08667	108.1332	MOORE - PAULINE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08681	108.1329	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09048	108.1324	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08661	108.1323	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0869	108.1192	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08318	108.1167	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08688	108.1154	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08661	108.1129	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08616	108.0981	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08688	108.0928	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08654	108.0888	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08659	108.0832	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08659	108.0822	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08693	108.0813	EL RENO SW - MUSTANG 69KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08681	108.0788	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08672	108.0784	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08686	108.0698	BRISTOW - SILVER CITY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08658	108.0698	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08665	108.0653	NORTHWEST - PIEDMONT 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08655	108.0514	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	108.0467	GEN509406 1-WELSH #3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	108.0465	GEN509405 1-WELSH #2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08681	108.0308	OIL CENTER - STRATFORD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08678	108.0231	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09539	107.9912	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	107.8901	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	107.7595	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09051	107.7031	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.6	BASE CASE	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	107.5797	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12591	107.5329	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	107.5066	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.4302	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0923	107.4061	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08344	107.3833	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.34	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.3356	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.3265	GEN520811 1-ANADRK4	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.3242	GEN520812 1-ANADRK5	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.3236	GEN520813 1-ANADRK6	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0923	107.2856	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10256	107.2747	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.13114	107.2477	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	107.2332	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.11242	107.2265	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.2083	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1988	GEN652556 2-OAHE	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1988	GEN652557 4-OAHE	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1988	GEN652558 6-OAHE	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1938	GEN562029 1-G11_018_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1834	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1834	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1631	GEN514905 1-REDBUD3S	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	107.161	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	107.1499	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08653	107.1493	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1486	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08653	107.148	BURGETT4 138.00 - RNCBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08674	107.1415	KEO EHV - WEST MEMPHIS 500 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08653	107.1409	ARCADIA - RNCBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1392	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1386	GEN514899 1-REDBUD1S	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1376	GEN562314 1-G12-039 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1311	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08689	107.1254	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1159	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1158	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1133	GEN560166 1-G07-48 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1121	GEN514942 2-REDBUD4G	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08728	107.1097	DELAWARE - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1091	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.0988	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0865	107.0844	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	107.0828	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.078	GEN514910 2-REDBUD GEN	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.0768	GEN560282 1-G08-19 0.6000	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.0764	GEN560175 1-G07-44	0.5750
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.0742	GEN560711 1-G10_044_3	0.6900
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.0736	GEN546698 1-QN GEN2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08812	107.0577	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08665	107.0483	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08792	107.048	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08646	107.0386	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.0334	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.0152	GEN562003 1-G11_027_3	0.6900
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.0069	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08675	106.9994	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08675	106.9984	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.9961	GEN560339 1-G10-48	0.6900
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.9794	GEN562118 1-G12_007_2	13.800
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.9794	GEN562119 1-G12_007_3	13.800
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.9628	GEN526331 1-JONES GEN #1	22 KV
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.9565	GEN526332 1-JONES GEN #2	21 KV
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08677	106.9484	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08788	106.9287	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08721	106.9286	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08721	106.9286	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.9274	GEN562317 1-G12-040	0.6900
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08686	106.9272	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.9172	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.911	GEN560331 1-G10-46	13.800
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.9031	GEN527882 1-CUNNINGHAM GEN #2	20 KV
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0863	106.8983	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0863	106.8951	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08812	106.8924	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0868	106.8898	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.8867	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.8805	GEN301380 1-10SAGEWIND	34.500
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	106.872	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08678	106.8639	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	106.8599	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.858	GEN562092 1-G12_001_3	0.6900
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.8478	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.8412	GEN560666 1-G10-056	0.6900
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.838	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08546	106.774	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0923	106.7668	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.7509	GEN523971 1-HARRINGTON GEN #1	24 KV
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08922	106.7251	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.7211	GEN562327 1-G12-026	13.800
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08552	106.7192	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.7051	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08672	106.6889	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.6767	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08546	106.6537	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09121	106.634	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09106	106.5845	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.5504	GEN546702 1-NM GEN N1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.4989	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.4955	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08813	106.4934	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	106.4815	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08943	106.481	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	106.4614	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08672	106.4259	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	106.422	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09106	106.4211	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09065	106.3861	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.3571	GEN562049 1-G11_012_3	0.6900
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08736	106.3454	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08487	106.3403	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08924	106.3251	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.11242	106.3085	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0894	106.308	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08487	106.306	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09121	106.2998	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0927	106.2755	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	106.2749	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09108	106.2652	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08564	106.2645	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.2599	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.2599	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09092	106.2569	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08625	106.2549	FT SMITH - MUSKOGEE 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.2225	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.1947	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	106.1891	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09069	106.1402	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08555	106.1215	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08834	106.1212	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08788	106.1118	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.1056	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.1056	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	106.1056	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	106.1003	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09159	106.0896	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	106.0873	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09045	106.0838	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08361	106.0684	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0918	106.0551	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09106	106.0455	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09823	106.0291	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09094	106.0089	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08983	105.9977	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09114	105.9957	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.9574	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.9469	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09237	105.9454	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09068	105.9321	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09033	105.9123	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.9089	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.8946	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.8875	GEN520997 1-MORLND2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.8751	GEN560669 1-G10_057 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09094	105.8648	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.8605	GEN527165 1-Mustang Gen #5	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08773	105.8596	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.8593	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.8501	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.8446	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.8412	GEN520998 1-MORLND3	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09157	105.8358	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08536	105.8273	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09549	105.8101	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.7838	GEN562298 1-G12-024 0.6500	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07548	105.7837	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.7828	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.7792	GEN562320 1-G12-041 18.000	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.7717	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08985	105.7715	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08985	105.7715	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.7473	GEN303007 1-1BC2 U2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.7469	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	105.7467	GEN520947 1-HUGO1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.7405	GEN303006 1-1BC2 U1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.7402	GEN303008 1-1BC2 U3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09037	105.7065	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09064	105.6961	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.696	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.6844	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.6618	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.6618	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09055	105.6536	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09009	105.6416	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.6386	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.6301	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08791	105.6219	OAKCREEK - WILD MARY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09091	105.6023	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.6014	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09064	105.6001	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.598	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0913	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0913	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09068	105.5968	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09215	105.5955	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09037	105.5651	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.16683	105.5639	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12577	105.5636	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.5629	GEN527166 1-MUSTANG_6 18.000	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09035	105.5628	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0895	105.5614	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09043	105.5608	KETCH - KETCH TAP 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.5395	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09091	105.5385	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09079	105.5382	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09059	105.5374	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09033	105.5291	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08994	105.5291	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.5291	GEN560329 1-G10-45 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08279	105.527	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09041	105.496	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08993	105.4952	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	105.479	GEN509406 1-WELSH #3	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	105.4784	GEN509404 1-WELSH #1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08994	105.4757	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	105.475	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08532	105.4491	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08993	105.4364	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.4337	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.4331	GEN562322 1-G12-042 13.800	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.4221	GEN336831 1-BAXTER WILSON SES	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	105.4173	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08949	105.4172	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.4052	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09526	105.4015	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0895	105.3991	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09053	105.3876	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09232	105.3774	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.3747	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09068	105.3607	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08437	105.3539	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09101	105.3537	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.3522	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.3513	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.346	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.3432	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.3378	GEN337041 1-GERALD ANDRUS	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.3361	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.3297	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08718	105.3228	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12564	105.3216	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.087	105.3181	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08949	105.3135	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08989	105.3068	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08791	105.304	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.2934	GEN562052 1-G11_040_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08949	105.2883	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08461	105.2875	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.2725	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09015	105.2694	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.2632	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09009	105.2546	LONEOAK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	105.2535	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09016	105.227	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.2129	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08925	105.2037	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09079	105.2029	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.2005	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09122	105.1981	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.1969	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09062	105.1928	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08113	105.1812	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08461	105.1812	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09036	105.1721	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09016	105.1716	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.163	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.163	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.1521	GEN599891 1-OKLAUN	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.1511	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.1505	GEN562308 1-G12-037 18.000	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09002	105.1497	CLEVELAND (CLVAUTO01) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.1496	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.1478	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.1464	GEN526334 1-JONES_4 116.500	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09016	105.1413	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09001	105.1288	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0899	105.1221	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.1221	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09018	105.1204	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.1185	GEN645001 1-FORT CALHOUN 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09018	105.1171	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	105.0995	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08791	105.0907	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0903	105.0889	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09087	105.0866	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.0857	GEN562311 1-G12-038 18.000	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09017	105.0788	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0917	105.0676	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08113	105.0645	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08981	105.0622	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08997	105.0502	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0904	105.0481	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0904	105.0446	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09025	105.0378	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09088	105.0316	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09079	105.0293	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	105.0232	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09122	105.0004	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.13636	104.9918	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08992	104.9916	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08437	104.991	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08953	104.9819	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08437	104.9802	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09005	104.9759	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09087	104.973	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08993	104.9698	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09009	104.9678	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08998	104.9663	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08986	104.9659	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09017	104.9535	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09041	104.9481	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08998	104.948	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09044	104.9436	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09295	104.9385	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08992	104.9327	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09015	104.9245	MOORE - PAULINE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	104.9243	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08998	104.9216	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08997	104.9164	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09018	104.9035	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09025	104.9018	EL RENO SW - MUSTANG 69KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08993	104.9002	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08986	104.9	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08986	104.8992	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08991	104.8958	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09041	104.8938	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09005	104.8909	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08437	104.8877	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0899	104.8709	BRISTOW - SILVER CITY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09009	104.8678	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09041	104.846	OIL CENTER - STRATFORD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08791	104.8387	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.8314	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.7808	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.7553	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08092	104.7125	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08803	104.695	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.651	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.6289	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.5579	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08566	104.555	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08571	104.5424	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	104.5043	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08566	104.4332	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	104.4325	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	104.4213	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.4152	BASE CASE	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08081	104.4148	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.3717	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.336	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.3305	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08597	104.2934	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	104.276	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.2284	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09513	104.2239	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08922	104.2112	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.2021	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.1721	GEN531447 1-HOLCOMB GENERATOR	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08092	104.1524	G11_051T 345.00 - TATONGA7	345.00 345KV CKT 1
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.1262	GEN520812 1-ANADRK5	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.1256	GEN520813 1-ANADRK6	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.0947	GEN520811 1-ANADRK4	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.0903	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09114	104.0854	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.0844	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	104.0587	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09678	104.0467	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.11008	104.0171	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.0143	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.0121	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	104.0121	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08597	104.001	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08597	104.001	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9739	GEN562314 1-G12-039 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.9669	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09046	103.9661	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09046	103.9649	BURGETT4 138.00 - RNDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.9633	GEN562017 1-G11_022 3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9613	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9612	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09046	103.9578	ARCADIA - RNDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08828	103.9532	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08989	103.9526	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9481	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9476	GEN562084 1-G11_050 3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9459	GEN560166 1-G07-48 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9383	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9357	GEN514905 1-REDBUD3S	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9348	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.9304	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9261	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08566	103.9253	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9086	GEN514899 1-REDBUD1S	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08957	103.9068	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.906	GEN560711 1-G10_044_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09078	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09078	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.9005	GEN546698 1-QN GEN2	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.8925	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08463	103.8882	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09006	103.8837	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.8791	GEN514942 2-REDBUD4G	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09002	103.8763	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	103.8675	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.8656	GEN560282 1-G08-19 0.6000	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.8649	GEN560175 1-G07-44 0.5750	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08976	103.8628	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08985	103.8551	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.8517	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.8412	GEN514910 2-REDBUD GEN	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.8409	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.8357	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08979	103.8343	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.8339	GEN560339 1-G10-48 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08989	103.8265	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.8262	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.8262	GEN562119 1-G12_007_3 13.800	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08989	103.8255	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09668	103.8064	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.7953	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.7895	GEN515606 1-CANADN11 34.500	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.7895	GEN515607 1-CANADN12 34.500	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.7886	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08989	103.7761	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07978	103.7532	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07939	103.7514	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08463	103.7489	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.091	103.7488	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.744	GEN560331 1-G10-46 13.800	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.7428	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.739	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.7388	GEN562317 1-G12-040 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08574	103.7291	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09007	103.7234	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09007	103.7201	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.7189	WELSH - WILKES 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.7108	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08462	103.7082	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08669	103.6985	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08976	103.6977	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09035	103.6925	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.6916	GEN562092 1-G12_001_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.682	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.6806	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08033	103.679	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08033	103.679	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.6746	GEN560666 1-G10-056 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.673	GEN301380 1-10SAGEWIND 34.500	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08603	103.6704	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09019	103.6608	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08487	103.6376	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07998	103.6191	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.6098	GEN562099 1-G11_054 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.6098	GEN562100 1-G11_054 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0901	103.6088	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.597	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08485	103.5811	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.5745	GEN562327 1-G12-026 13.800	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.5466	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08917	103.526	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.5156	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10193	103.4984	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08454	103.4913	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08279	103.485	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07389	103.479	PITTSBURG - VALLIANT 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07998	103.4635	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08465	103.4527	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.4492	GEN562023 1-G11_020_3 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.4492	GEN562026 1-G11_019_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08442	103.4461	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.4406	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.4262	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08465	103.4223	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07939	103.4113	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.3718	GEN546702 1-NM GEN N1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.3489	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08459	103.3425	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.3423	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.3304	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09411	103.3069	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08561	103.2822	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	103.2808	GEN640009 1-COOPER NUCLEAR STATION	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09161	103.2726	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08443	103.2509	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08917	103.2466	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08456	103.2403	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	103.2343	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.2343	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.2341	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	103.2332	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08439	103.2313	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08718	103.2177	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08494	103.2128	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08477	103.2084	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08444	103.18	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08456	103.1724	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09195	103.1603	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09074	103.1366	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.1297	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.1296	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09047	103.1029	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07998	103.0978	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.0977	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.097	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.0855	GEN303007 1-1BC2 U2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.0812	GEN303006 1-1BC2 U1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.0808	GEN303008 1-1BC2 U3	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.0709	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	103.0601	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.0591	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	103.0294	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	18SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0964	103.0155	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	103.0012	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.9824	GEN560386 1-G10-029-1 0.6900	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.9824	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.9824	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08559	102.9808	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08512	102.9762	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08512	102.9762	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.976	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08466	102.9739	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.9692	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08987	102.965	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09047	102.9639	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08263	102.9467	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08428	102.9455	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	102.9233	GEN514805 1-SOONER UNIT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09101	102.9108	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0845	102.9032	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.8966	GEN509391 G1-ARSENAL HILL GENS #2 (STALL)	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.8966	GEN509392 G2-ARSENAL HILL GENS #3 (STALL)	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08584	102.886	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.8854	GEN509393 S1-ARSENAL HILL GENS #4 (STALL)	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08514	102.8439	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08514	102.8438	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.8417	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08439	102.8406	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08561	102.8393	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08475	102.8338	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.8289	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08457	102.817	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08428	102.8089	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08712	102.7986	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.796	GEN520997 1-MORLND2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08443	102.7869	LONEOAK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08633	102.7823	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08433	102.7786	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08423	102.7753	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.7632	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.7573	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.7519	GEN520998 1-MORLND3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09402	102.7498	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08431	102.7488	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08847	102.7467	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.7451	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08467	102.736	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08499	102.7311	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12423	102.7287	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.7258	GEN527165 1-Mustang Gen #5	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.7245	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.7212	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.716	GEN560669 1-G10_057_0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.7105	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09402	102.7023	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.7014	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08462	102.6914	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.6863	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.684	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08426	102.684	MCLLAIN - WILROGR4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09058	102.6746	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12349	102.6741	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08561	102.6622	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.6612	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12612	102.6606	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.6545	GEN562298 1-G12-024 0.6500	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.6532	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08425	102.6467	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.6442	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.6366	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08433	102.6186	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.6182	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	102.5901	GEN560687 1-G11-007 0.5750	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07967	102.5824	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07967	102.5824	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	102.5762	GEN520947 1-HUGO1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08848	102.5761	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.576	GEN562320 1-G12-041 18.000	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.5691	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08308	102.5592	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.5579	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.5445	GEN562052 1-G11_040_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08551	102.5437	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08959	102.5347	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08424	102.5301	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.5292	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.5292	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08455	102.5288	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08474	102.5165	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08437	102.5075	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.5053	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08436	102.5038	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08522	102.501	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08384	102.4857	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.481	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.4675	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.4675	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08429	102.4497	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.4412	GEN527166 1-MUSTANG_6 18.000	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08424	102.4402	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.084	102.44	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08505	102.4371	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08271	102.4347	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08455	102.4343	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08522	102.4301	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09046	102.4277	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08089	102.4272	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.4219	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.4205	GEN560329 1-G10-45 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08424	102.417	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08439	102.4152	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08427	102.4088	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09115	102.4047	OAKCREEK - WILD MARY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08384	102.4031	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08499	102.4023	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09351	102.4006	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08416	102.3911	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08429	102.3875	NW164TH4 138.00 - PIEDMONT 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08429	102.3856	NORTHWEST - NW164TH4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08416	102.3826	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0844	102.3755	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	102.3682	GEN562285 1-G12-031 0.6900	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	102.3653	GEN514806 1-SOONER UNIT 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.358	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08424	102.3532	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	102.3422	GEN562010 1-G11_024_3 0.6900	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	102.3419	GEN509406 1-WELSH #3	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	102.3413	GEN509404 1-WELSH #1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08416	102.339	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08442	102.3355	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08421	102.3338	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08429	102.3333	PIEDMONT - RICHRDS 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.3157	GEN562322 1-G12-042 13.800	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	102.3119	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08416	102.3091	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.2995	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08445	102.2994	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0924	102.2963	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	102.2591	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08569	102.251	HOLLYWOOD - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09139	102.2489	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.2485	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08429	102.2465	DIVISION AVE - RICHRDS 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08425	102.2437	MOORE - PAULINE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08443	102.2417	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08428	102.2414	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08271	102.2387	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08435	102.2375	DIVISION AVE - SILVER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08499	102.2328	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08435	102.2314	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08397	102.2314	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08443	102.2282	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08435	102.2282	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08415	102.2193	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08435	102.2153	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08376	102.2099	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08417	102.2098	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08437	102.2087	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08374	102.2038	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09124	102.1997	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0849	102.1958	CHERRY CREEK - PLEASANT VALLEY 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08187	102.1835	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08445	102.1825	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0841	102.1729	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08376	102.1671	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08412	102.1622	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08416	102.16	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08411	102.1571	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08428	102.1569	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08437	102.1536	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08422	102.1369	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08417	102.126	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09139	102.1232	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09115	102.1166	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	102.113	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08187	102.0697	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.0536	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.0402	GEN562308 1-G12-037 18.000	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12612	102.0153	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.0067	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08263	102.0057	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	102.0054	GEN526334 1-JONES 4 116.500	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.9985	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.9941	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12612	101.9932	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.9902	GEN562311 1-G12-038 18.000	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	101.9694	GEN525561 1-TOLK GEN #1 24 KV	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0924	101.9344	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0924	101.9236	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09115	101.904	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.9003	GEN599891 1-OKLAUN	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0924	101.8317	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12612	101.8274	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	101.8244	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.13028	101.7986	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.766	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.6904	BASE CASE	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12332	101.6814	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.6641	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09115	101.6491	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	2	18SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09919	101.644	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.6376	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.6248	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09351	101.5627	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.528	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08943	101.5267	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.5073	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	101.5041	GEN520947 1-HUGO1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09313	101.4943	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.4921	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12163	101.4791	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.479	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09242	101.4653	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.463	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	101.4554	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.4269	GEN549893 2-SOUTHWEST 2	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09313	101.3776	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09246	101.3728	LYDIA - VALLIANT 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.3646	GEN520812 1-ANADRK5	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.3642	GEN520813 1-ANADRK6	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.3637	GEN520811 1-ANADRK4	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	101.3617	GEN525562 1-TOLK GEN #2 24 KV	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	101.3562	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.3511	GEN511851 1-COMANCHE #1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	101.3182	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08543	101.3166	FOREST HILL - SQUIRL CREEK 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.3003	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2986	GEN562029 1-G11_018_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2963	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2963	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	01NR	2	13G	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.14311	101.2881	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	101.2867	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	101.2758	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2595	GEN514942 2-REDBUD4G	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2587	GEN539677 3-A. M. MULLERGEN GENERATOR	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2581	GEN562314 1-G12-039 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0813	101.2533	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2489	GEN514905 1-REDBUD3S	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2466	GEN640024 3-BEATRICE POWER STATION UNIT 3	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.2423	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.2422	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09639	101.241	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2408	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.2295	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2289	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2251	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2239	GEN514899 1-REDBUD1S	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2218	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2197	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.219	GEN560166 1-G07-48 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08422	101.2145	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08418	101.2127	BAXTER WILSON SES - PERRYVILLE 500KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.2101	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09487	101.1976	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08438	101.1933	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08414	101.1902	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08414	101.1892	BURGETT4 138.00 - RNDBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.1879	GEN560711 1-G10_044_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.1863	GEN560282 1-G08-19 0.6000	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.1858	GEN560175 1-G07-44 0.5750	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08414	101.1815	ARCADIA - RNDBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08406	101.1797	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0942	101.1794	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.1785	GEN546698 1-QN GEN2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08403	101.1627	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.1618	GEN514910 2-REDBUD GEN	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08271	101.161	DRAPER LAKE - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.1556	GEN522866 2-LUBBOCK POWER & LIGHT-HOLLY GEN	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08432	101.1538	KEO EHV - WEST MEMPHIS 500 500KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.153	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08451	101.1434	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09099	101.14	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	101.1368	GEN531447 1-HOLCOMB GENERATOR	
FDNS	01NR	2	13G	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.16392	101.1174	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09675	101.1163	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08338	101.1161	ELKCITY7 345.00 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.115	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09124	101.1107	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.1048	GEN560339 1-G10-48 0.6900	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	101.0985	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.0951	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.0951	GEN562119 1-G12_007_3 13.800	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08539	101.0745	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.0718	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.0704	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08477	101.0615	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08477	101.0615	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08441	101.0427	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.0347	GEN560331 1-G10-46 13.800	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.0316	GEN562317 1-G12-040 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0854	101.0284	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08435	101.0107	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08435	101.0097	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.0011	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08385	100.9978	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08385	100.9932	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.993	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.9754	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.9751	GEN562092 1-G12_001_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.975	GEN301380 1-10SAGEWIND 34.500	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.9724	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.972	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.9715	GEN562017 1-G11_022_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.9681	GEN560666 1-G10-056 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08477	100.9656	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.11937	100.9642	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08547	100.952	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08433	100.9511	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08176	100.9469	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08666	100.9327	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08437	100.9245	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.9221	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.9141	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12198	100.9079	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	100.8865	GEN515040 1-SEMINOLE 1G	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	100.8798	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0854	100.8796	DISCVRY - OAKCREEK 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.8789	GEN659118 1-LARAMIE RIVER UNIT1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0863	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0863	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09313	100.8733	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09099	100.8541	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09099	100.8541	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08307	100.8515	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.8508	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12193	100.8497	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08487	100.8465	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.842	GEN562327 1-G12-026 13.800	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08428	100.8277	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09119	100.8141	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.7954	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	100.7938	GEN509406 1-WELSH #3	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	100.7933	GEN509405 1-WELSH #2	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	100.7931	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12198	100.7906	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08308	100.7793	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.7662	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09218	100.7515	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	18SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10898	100.7426	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	100.7199	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09672	100.6951	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09119	100.673	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.6653	GEN546702 1-NM GEN N1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.6523	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09046	100.6493	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	100.6464	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08354	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08354	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09158	100.6402	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	100.6336	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	100.613	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.6117	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09185	100.608	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08564	100.5805	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08428	100.5797	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09225	100.5748	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.5576	GEN562023 1-G11_020_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.5576	GEN562026 1-G11_019_3 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.5568	GEN515606 1-CANADN11 34.500	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.5568	GEN515607 1-CANADN12 34.500	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08662	100.5532	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.5459	GEN659285 1-DEERCREEK 1G13.800	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.5429	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09189	100.5417	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08176	100.5392	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0942	100.534	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08512	100.5147	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09143	100.5128	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0942	100.5119	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.4819	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09367	100.4693	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12146	100.4571	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09185	100.4533	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09036	100.4497	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09041	100.4494	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09218	100.4134	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08338	100.4041	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09099	100.4024	PITTSBURG - VALLIANT 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09167	100.3798	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.3731	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.3731	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.3693	GEN539670 4-JUDSON LARGE GENERATOR	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.3661	GEN562099 1-G11_054 0.6900	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.3661	GEN562100 1-G11_054 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08176	100.3661	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08259	100.3498	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09196	100.3465	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0942	100.3461	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.3409	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	100.3332	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.3274	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.3237	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09165	100.3234	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	100.3171	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08259	100.3148	SOONER - SPRING CREEK 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12183	100.3108	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09679	100.2874	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08126	100.2871	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.11851	100.2767	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09116	100.2717	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1235	100.2712	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	01NR	0	13G	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12066	100.2549	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.2515	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.2515	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.2515	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09476	100.2087	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08315	100.2019	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	100.1917	GEN640009 1-COOPER NUCLEAR STATION	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09109	100.1894	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08549	100.1796	LYDIA - VALLIANT 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09094	100.1769	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09017	100.1606	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09307	100.1565	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09211	100.1516	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09127	100.1479	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.134	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09321	100.1338	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09082	100.133	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12182	100.1287	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1235	100.112	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09094	100.1085	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.0968	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09163	100.0916	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09185	100.0899	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	100.0893	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12196	100	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09351	100	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09351	100	GEN520947 1-HUGO1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07712	100	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.13028	99.9	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12389	99.9	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09967	99.9	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09138	99.9	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09128	99.9	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	99.9	GEN520997 1-MORLND2	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	99.9	GEN562298 1-G12-024 0.6500	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08297	99.9	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	01NR	0	13G	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10335	99.9	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.03302	100.5142	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - SARA 138KV CKT 1	382	0.03245	105.8681	CIMARRON - DRAPER LAKE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CIMARRON - SARA 138KV CKT 1	382	0.03272	104.3677	CIMARRON - DRAPER LAKE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04741	116.1887	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03591	115.4263	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04741	114.235	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03591	113.4719	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0411	109.3139	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05169	109.2972	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0411	107.17	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05169	107.1535	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03099	104.2906	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03099	102.5236	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03914	102.1794	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_016	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03914	100.3669	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04685	114.774	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03548	114.021	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04685	112.8585	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03548	112.1047	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04059	107.9323	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05105	107.9159	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04059	105.8293	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05105	105.813	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03061	102.9718	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03061	101.2422	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_016	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03865	100.8885	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CZECH HALL - XEROX 138KV CKT 1	382	0.03055	107.6221	CIMARRON - DRAPER LAKE 345KV CKT 1	
FDNS	00NR	2	13SP	G12_016	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.03687	106.8525	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13SP	G12_016	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.03687	102.239	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	13SP	G12_016	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.03687	102.0665	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	2	13SP	G12_016	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.03687	100.8809	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	143	0.05094	112.8978	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	143	0.05094	109.1944	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	143	0.04937	108.3107	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	143	0.04937	104.8035	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	23SP	G12_016	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04525	121.8029	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.03239	121.7798	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	18SP	G12_016	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04777	109.7584	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	13SP	G12_016	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.03836	103.0565	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06674	145.5236	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.19049	145.3926	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	143.1875	GEN520998 1-MORLND3	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	143.0808	GEN520998 1-MORLND3	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	140.9295	GEN520997 1-MORLND2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	140.8228	GEN520997 1-MORLND2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0706	137.0475	IODINE - WOODWARD EHV 138KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.18927	136.9078	IODINE - WOODWARD EHV 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0706	135.7819	DEWEY - IODINE 138KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.18927	135.6423	DEWEY - IODINE 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.07031	131.7925	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.18119	131.7208	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06942	129.762	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.18047	129.6872	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06674	124.3136	WOODWARD - WOODWARD 69KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.19049	124.181	WOODWARD - WOODWARD 69KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	122.8977	BASE CASE	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	122.7702	BASE CASE	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06827	121.8423	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17945	121.5457	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	01NR	0	13G	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06496	121.3574	G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17958	120.4951	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06827	120.495	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	18SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06859	120.171	G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06226	118.9938	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17581	118.8569	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06827	118.8281	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17945	118.5562	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06208	118.4177	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17605	118.2913	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05976	118.0091	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.1748	117.9013	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05956	117.7905	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17565	117.6771	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06069	117.5689	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17424	117.4452	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1	
FDNS	01NR	2	13G	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05899	116.3892	G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06208	115.8854	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06208	115.8657	STLN-DEMARC6 - SWEETWATER 230KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17605	115.7601	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17605	115.7448	STLN-DEMARC6 - SWEETWATER 230KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06174	115.5621	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06174	115.5621	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17428	115.4336	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17428	115.4336	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06164	115.0707	G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17499	114.9433	G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06076	114.6291	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17432	114.5068	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06764	113.8256	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17973	113.6957	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06202	112.9197	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17411	112.7911	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06091	112.7283	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.1735	112.6048	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05991	112.5222	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	112.4292	GEN514805 1-SOONER UNIT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17283	112.3985	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	112.3128	GEN514805 1-SOONER UNIT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05964	112.2178	G12-011T 345.00 - POST ROCK 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05964	112.1066	G11-17T 345.00 - G12-011T 345.00 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17263	112.0959	G12-011T 345.00 - POST ROCK 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17263	111.9819	G11-17T 345.00 - G12-011T 345.00 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05981	111.9368	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17274	111.8002	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06108	111.0269	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17333	110.9226	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05964	110.8986	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05935	110.8763	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17265	110.7779	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.1724	110.7553	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	110.6902	GEN511848 1-SOUTHWESTERN STATION #3	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05966	110.5858	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	110.5746	GEN511848 1-SOUTHWESTERN STATION #3	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17262	110.4654	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06084	110.3281	DEWEY - TALOGA 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06075	110.2419	FARGO JCT - WOODWARD 69KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.18868	110.2089	DEWEY - TALOGA 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06012	110.1707	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17661	110.1257	FARGO JCT - WOODWARD 69KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17279	110.0495	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	110.0321	GEN515787 1-OKLA WIND ENERGY CENTER	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	110.0148	GEN514806 1-SOONER UNIT 2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	109.919	GEN515787 1-OKLA WIND ENERGY CENTER	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06194	109.9169	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	109.8978	GEN514806 1-SOONER UNIT 2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17451	109.7933	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06194	109.497	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.06772	109.4188	G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05935	109.4119	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17451	109.3731	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17239	109.2931	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05943	109.243	MULGREN7 345.00 - RENO COUNTY 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05943	109.243	MULGREN7 345.00 - RENO COUNTY 345KV CKT 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	109.1822	GEN514939 1-HORSESHOE LAKE 8G	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	109.1654	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06111	109.1631	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17244	109.1244	MULGREN7 345.00 - RENO COUNTY 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17244	109.1244	MULGREN7 345.00 - RENO COUNTY 345KV CKT 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	109.1199	GEN521207 1-RHWIND1WG11 0.6900	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	109.0849	GEN520922 1-SLEEPING BEAR	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	109.0655	GEN514939 1-HORSESHOE LAKE 8G	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	109.0488	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17344	109.0425	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	109.0184	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	109.0138	GEN520947 1-HUGO1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	109.0079	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	109.007	GEN521207 1-RHWIND1WG11 0.6900	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	108.9928	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	108.9921	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	108.9904	GEN520996 1-MORLND1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	108.9717	GEN520922 1-SLEEPING BEAR	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	108.9043	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05961	108.8979	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	108.8975	GEN520947 1-HUGO1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	108.8938	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	108.879	GEN520996 1-MORLND1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	108.8779	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	108.8765	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05956	108.8678	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	108.8586	GEN511843 1-RIVERSIDE STATION #2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06023	108.8505	BENTON - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	108.8451	GEN511842 1-RIVERSIDE STATION #1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06075	108.7844	FARGO JCT - FT SUPPLY 69KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17253	108.7797	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17255	108.755	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	108.7421	GEN511843 1-RIVERSIDE STATION #2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17299	108.7319	BENTON - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	108.7286	GEN511842 1-RIVERSIDE STATION #1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.06603	108.0998	G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17411	107.5611	G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05774	104.8965	GOLTYTP2 69.000 - HELENA TAP 69KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05873	104.8446	CLINTON AIR FORCE BASE TAP - ELK CITY 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05872	104.8301	PUTNAM - TALOGA 69KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17305	104.785	GOLTYTP2 69.000 - HELENA TAP 69KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.7807	GEN527165 1-Mustang Gen #5	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.779	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.7766	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.7522	GEN560669 1-G10_057 0.6900	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17148	104.7315	CLINTON AIR FORCE BASE TAP - ELK CITY 138KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17179	104.717	PUTNAM - TALOGA 69KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.6687	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.6656	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.6459	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.6412	GEN560669 1-G10_057 0.6900	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.6374	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.6374	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05873	104.6045	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05882	104.5872	BRANTLEY - DURHAM 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.5861	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.5829	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.5759	GEN542951 5-HAWTHORN UNIT #5	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.5718	GEN527166 1-MUSTANG 6 18.000	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.5353	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.5273	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.5273	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05991	104.5071	CRESWELL - MIDLTNT4 138.00 138KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17148	104.49	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.4753	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17237	104.4743	BRANTLEY - DURHAM 138KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.4734	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.4651	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05832	104.4635	OKEENE - WATONGA SW 69KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.4623	GEN527166 1-MUSTANG 6 18.000	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.4548	GEN532722 1-EVANS ENERGY CENTER UNIT 2	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17271	104.3928	CRESWELL - MIDLTNT4 138.00 138KV CKT 1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05882	104.3865	BRANTLEY - MORWOOD 138KV CKT 1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05882	104.3787	MOREWOOD SW - MORWOOD 138KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17203	104.3509	OKEENE - WATONGA SW 69KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.3432	GEN532722 1-EVANS ENERGY CENTER UNIT 2	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.3405	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.295	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.295	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.295	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.2891	GEN525494 1-PLANT X GEN #4 20 KV	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.2781	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.2772	GEN526334 1-JONES_4 116.500	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17237	104.2736	BRANTLEY - MORWOOD 138KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17237	104.2658	MOREWOOD SW - MORWOOD 138KV CKT 1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.2421	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.23	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.1942	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.1942	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.1845	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.1845	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.1845	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.1806	GEN525494 1-PLANT X GEN #4 20 KV	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.1696	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.1686	GEN526334 1-JONES_4 116.500	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05894	104.1666	ALVA - CHEROKEE SW 69KV CKT 1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.1565	GEN539670 4-JUDSON LARGE GENERATOR	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.1336	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05788	104.1121	WOODWARD - WOODWARD EHV 138KV CKT 2	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.084	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.084	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.0639	GEN562308 1-G12-037 18.000	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17241	104.0525	ALVA - CHEROKEE SW 69KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	104.0462	GEN539670 4-JUDSON LARGE GENERATOR	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	104.0305	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05853	104.0161	CLINTON JUNCTION - ELK CITY 138KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.16847	104.001	WOODWARD - WOODWARD EHV 138KV CKT 2	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05774	103.986	HELENA TAP - SALINE 69KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.9555	GEN562308 1-G12-037 18.000	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.9454	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.9201	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17194	103.9017	CLINTON JUNCTION - ELK CITY 138KV CKT 1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.898	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17305	103.8743	HELENA TAP - SALINE 69KV CKT 1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.8712	GEN562322 1-G12-042 13.800	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.867	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.8662	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.8484	GEN524023 1-NICHOLS GEN #3 22 KV	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.8354	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06052	103.8148	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06052	103.8148	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.7902	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.7774	GEN562288 1-G12-016-1 18.000	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.7613	GEN562322 1-G12-042 13.800	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.7569	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.7534	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.7418	GEN524023 1-NICHOLS GEN #3 22 KV	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05761	103.7156	DOVER - TWIN LAKES 138KV CKT 1	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05895	103.7013	ALVA - KNOBHILL 69KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17343	103.6997	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17343	103.6997	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR		0 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.6951	GEN562298 1-G12-024 0.6500	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.6666	GEN562288 1-G12-016-1 18.000	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17241	103.6024	DOVER - TWIN LAKES 138KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17256	103.5871	ALVA - KNOBHILL 69KV CKT 1	
FDNS	00NR		2 23SP	G12 016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.5853	GEN562298 1-G12-024 0.6500	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.5651	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05761	103.5341	DOVER - DOVER SW 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.499	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.4979	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05774	103.4829	KNOBHILL - SALINE 69KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.4675	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.4556	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.4554	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.4306	GEN562311 1-G12-038 18.000	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17241	103.4208	DOVER - DOVER SW 138KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.3923	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.3912	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17305	103.3712	KNOBHILL - SALINE 69KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.3585	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.3472	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.3235	GEN562311 1-G12-038 18.000	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	103.2825	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	103.1742	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.9301	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.8603	GEN560329 1-G10-45 0.6900	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0599	102.8444	FT SUPPLY - IODINE 138KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.8221	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.7531	GEN560329 1-G10-45 0.6900	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17612	102.7295	FT SUPPLY - IODINE 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.5068	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.5037	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.496	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06111	102.4957	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.4811	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.408	GEN640009 1-COOPER NUCLEAR STATION	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.4025	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.3995	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.3918	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17344	102.3831	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.3745	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.3171	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.301	GEN640009 1-COOPER NUCLEAR STATION	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.2581	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.2561	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.2098	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.1667	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.151	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.1491	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	102.0779	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	102.0603	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	101.9718	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	101.9579	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	101.8519	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	101.6097	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	101.5041	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	101.1719	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	101.1115	GEN562010 1-G11_024_3 0.6900	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0599	101.0754	IODINE - MOORELAND 138KV CKT 1	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	101.0641	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	100.9861	GEN562010 1-G11_024_3 0.6900	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17612	100.9605	IODINE - MOORELAND 138KV CKT 1	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	100.9193	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	100.8142	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	100.0616	GEN525561 1-TOLK GEN #1 24 KV	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	100	GEN525561 1-TOLK GEN #1 24 KV	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05923	100	GEN531447 1-HOLCOMB GENERATOR	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17229	99.9	GEN531447 1-HOLCOMB GENERATOR	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05391	150.8947	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05391	146.5198	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05224	145.5797	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05224	141.0607	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05176	124.5032	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05176	120.5124	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04073	118.7843	KNOBHILL - MOORELAND 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04073	118.7699	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04039	117.3196	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04039	117.3196	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04089	116.8115	CEDARDALE - MOORELAND 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04089	116.6063	CEDARDALE - OKEENE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03905	116.3284	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03989	115.5314	KNOBHILL - MOORELAND 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03989	115.5173	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03628	114.1868	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03918	113.9258	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03918	113.9258	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	113.6607	GEN514805 1-SOONER UNIT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03947	113.6473	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03947	113.6473	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04	113.2955	CEDARDALE - MOORELAND 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0403	113.2367	DOVER SW - OKEENE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04	113.0733	CEDARDALE - OKEENE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04388	112.7823	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03842	112.4809	ALVA - KNOBHILL 69KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03926	112.1793	MOORELAND - NINE MILE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03926	112.1723	MOREWOOD SW - NINE MILE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03899	111.6212	DEWEY - SOUTHARD 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03799	111.2846	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03899	111.1106	ROMAN NOSE - SOUTHARD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03946	110.763	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03899	110.7501	EL RENO - ROMAN NOSE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	110.5519	GEN514806 1-SOONER UNIT 2	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03834	110.4283	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03834	110.4283	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03554	110.4057	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03946	110.3492	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03669	110.2219	GEN514805 1-SOONER UNIT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03862	110.11	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03892	110.0134	MOREWOOD SW - NINE MILE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03892	110.0118	MOORELAND - NINE MILE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03911	109.9352	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03763	109.6529	ALVA - KNOBHILL 69KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03889	109.6346	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03772	109.6068	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03941	109.5824	DOVER SW - OKEENE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03946	109.2618	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03786	109.2197	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03854	109.1251	MOORELAND - TALOGA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03822	108.9398	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04296	108.898	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03833	108.8832	ELK CITY - RED HILLS WIND 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03786	108.7358	ALVA - CHEROKEE SW 69KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03802	108.6799	CLINTON JUNCTION - ELK CITY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03876	108.5162	ALINETP2 69.000 - ALVA 69KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03833	108.5067	MOREWOOD SW - RED HILLS WIND 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03816	108.159	DEWEY - SOUTHARD 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03816	107.6849	ROMAN NOSE - SOUTHARD 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0386	107.4599	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03816	107.3683	EL RENO - ROMAN NOSE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03669	107.1171	GEN514806 1-SOONER UNIT 2	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0386	107.0591	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0378	106.9471	ELK CITY - RED HILLS WIND 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03777	106.82	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03882	106.3528	KNOBHILL - MOORELAND 138KV CKT 1	
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03882	106.3404	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03828	106.3123	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03805	106.3105	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03694	106.2537	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	106.0811	BASE CASE	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0386	106.0062	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03709	105.9433	ALVA - CHEROKEE SW 69KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03773	105.841	MOORELAND - TALOGA 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0378	105.8358	MOREWOOD SW - RED HILLS WIND 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03707	105.7226	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03437	105.2445	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03759	103.6742	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0373	103.5215	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	103.5177	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	103.4404	GEN562308 1-G12-037 18.000	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	103.4067	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	103.3679	GEN659118 1-LARAMIE RIVER UNIT1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	103.3077	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	103.3066	GEN526334 1-JONES_4 116.500	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	103.2076	GEN562311 1-G12-038 18.000	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03823	103.0858	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03696	103.0808	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	103.0712	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03696	103.0297	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03669	102.8437	BASE CASE	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03797	102.7172	CLEO JCT - RINGWOOD 69KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03797	102.7111	CLEO CORNER - CLEO JCT 69KV CKT 1	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03727	102.6836	CLEVELAND - SOONER 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03903	102.6835		CEDARDALE - MOORELAND 138KV CKT 1
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	102.5759		GEN562042 1-G11_014_3 0.6900
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03903	102.4367		CEDARDALE - OKEENE 138KV CKT 1
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	102.256		GEN531447 1-HOLCOMB GENERATOR
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03857	102.0806		MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03857	102.0806		MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	01NR	0	13G	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05349	101.7837		G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	101.6523		GEN523972 1-HARRINGTON GEN #2 24 KV
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	101.4713		GEN562074 1-G11_049_3 0.6900
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	101.3341		GEN562017 1-G11_022_3 0.6900
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	101.0136		GEN562020 1-G11_021_3 0.6900
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05683	100.98		G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	100.9107		GEN562289 1-G12-016-2 18.000
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	100.804		GEN523973 1-HARRINGTON GEN #3 24 KV
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0334	100.7455		IMO TAP - SOUTH 4TH ST 138KV CKT 1
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03663	100.7305		ALVA - KNOBHILL 69KV CKT 1
FDNS	00NR	0	13SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03404	100.5274		MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	00NR	0	13SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03404	100.5274		MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03569	100.5148		GEN514805 1-SOONER UNIT 1
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03801	100.459		MOORELAND - NINE MILE 138KV CKT 1
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03801	100.4501		MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0389	100.3862		CLEO CORNER (CLEOCOR1) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03669	100.3344		GEN562288 1-G12-016-1 18.000
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03681	100.3275		MORISNT4 138.00 - STILLWATER 138KV CKT 1
FDNS	00NR	0	13SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03647	100.2859		TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03651	100.2117		CLEVELAND - TULSA NORTH 345KV CKT 1
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03669	100.1986		GEN523971 1-HARRINGTON GEN #1 24 KV
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03669	100.1648		GEN562311 1-G12-038 18.000
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	100		GEN562023 1-G11_020_3 0.6900
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03747	100		GEN562026 1-G11_019_3 0.6900
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03746	100		BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03669	99.9		GEN562014 1-G11_023_3 0.6900
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03618	99.9		COTTONWOOD CREEK - MARSHALL 138KV CKT 1
FDNS	00NR	0	23SP	G12_016	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03042	111.4391		AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1
FDNS	00NR	0	18SP	G12_016	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03207	108.4889		AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1
FDNS	00NR	0	23SP	G12_016	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.0365	106.1985		SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	00NR	2	23SP	G12_016	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03152	106.1918		SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	00NR	0	18SP	G12_016	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03851	103.0511		SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	00NR	0	23SP	G12_016	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03401	102.9973		EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	00NR	0	13SP	G12_016	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03164	101.4926		SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	00NR	0	23SP	G12_016	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03256	100.7783		AXTELL - POST ROCK 345KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04275	133.8372		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04275	131.2878		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	01NR	2	13G	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03271	105.7321		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03722	104.4226		CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	01NR	2	13G	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03271	103.9204		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03279	103.4921		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03269	103.2373		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03722	102.9264		CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03303	102.7223		CIMARRON - HAYMAKER 138KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03279	101.9767		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03303	101.7811		DIVISION AVE - HAYMAKER 138KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03269	101.7268		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03303	101.311		CIMARRON - HAYMAKER 138KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05512	101.0535		ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03329	100.8755		CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03303	100.4275		DIVISION AVE - HAYMAKER 138KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03329	100		CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03329	100		MORGAN - XEROX 138KV CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04139	122.5131		NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_016	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04139	120.1546		NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13WP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	185	0.05135	102.7907		G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	00NR	0	18WP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	185	0.04998	100.0957		G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	00NR	0	18WP	G12_016	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04659	106.5163		BENTON - WICHITA 345KV CKT 1
FDNS	00NR	0	13WP	G12_016	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04783	104.2463		BENTON - WICHITA 345KV CKT 1
FDNS	00NR	0	18WP	G12_016	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04659	103.6351		BENTON - WICHITA 345KV CKT 1
FDNS	00NR	0	13WP	G12_016	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04783	101.4415		BENTON - WICHITA 345KV CKT 1
FDNS	00NR	2	23SP	G12_016	FROM->TO	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	134	0.07458	105.3988		FPL SWITCH - MOORELAND 138KV CKT 1
FDNS	00NR	2	23SP	G12_016	FROM->TO	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	134	0.07458	104.501		FPL SWITCH - MOORELAND 138KV CKT 1
FDNS	00NR	2	23SP	G12_016	FROM->TO	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	134	0.07458	102.9123		FPL SWITCH - WOODWARD 138KV CKT 1
FDNS	00NR	2	23SP	G12_016	FROM->TO	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	134	0.07458	101.9516		FPL SWITCH - WOODWARD 138KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	1	215.308		G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018_BPS ON_HOSKINSOF F	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	158.211		G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	009_BPSON_HOS KINSOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	130.8662		G10-51T 230.00 - TWIN CHURCH 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00G12_018HOS KINSOFF	0	18SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	129.8868	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	13WP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	129.557	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	18WP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	129.4609	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	13SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	129.3765	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	127.1901	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018_BPS ON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	127.1774	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	0	18SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	126.3655	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	0	13WP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	126.1112	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	0	18WP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	126.0818	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	0	13SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	125.8904	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	125.7223	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.78212	125.5869	SIOUX CITY - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.47737	119.0285	HOSKINS - RAUN 345KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.53057	110.2094	EMERSON - TWIN CHURCH 115KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52092	109.4257	FT THOMPSON - GRAND ISLAND 345KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52278	108.8873	TWIN CHURCH (TWNCHURCH T4) 230/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.50526	108.61	COLUMEAST - NW68TH & HOLDREGE 345KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52005	107.4075	ANITA TAP POINT TO CRESTON AND DENISON - EXIRA 161KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52133	107.1135	DENISON - SIOUX CITY 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51828	107.0112	FT RANDAL - SPENCER 115KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51828	106.8352	ONEILL - SPENCER 115KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51877	106.8172	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52092	106.7683	EAGLE 4 230.00 - SIOUX CITY 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51621	106.7474	COLUMWEST - GRAND ISLAND 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51877	106.615	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.5185	106.5891	KELLY - MADISONCO 230.00 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52072	106.5852	TWIN CHURCH (TWNCHURCH T6) 230/115/13.8KV TRANSFORMER CKT 2
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51877	106.5558	GEN640009 1-COOPER NUCLEAR STATION
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52838	106.4687	BELDEN - TWIN CHURCH 115KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51826	106.3213	BLOOMFIELD - GAVINS POINT 115KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51826	106.3145	BLOOMFIELD - CREIGHTON 115KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51877	106.234	GEN645012 2-NEBRASKA CITY 2
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51877	106.1413	GEN645011 1-NEBRASKA CITY 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51877	104.4005	BASE CASE
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51593	102.7716	STANTON - STANTON NORTH 115KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52064	102.6911	PAHOJA - SIOUX FALLS 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51915	102.562	ATCHSNT3 345.00 - COOPER 345KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51877	102.4707	GEN659285 1-DEERCREEK 1G13.800
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51953	102.4247	INTERCHANGE - KELLOGG 161KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51915	102.3995	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52052	102.2243	FT RANDAL - SIOUX CITY 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51947	102.2214	FT RANDAL - UTICA JCT 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51593	101.7764	HOSKINS - STANTON NORTH 115KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51953	101.5988	INTERCHANGE - RAUN 161KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52337	101.5586	SIOUX CITY (SC2 KU1B) 345/230/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.52348	101.495	SIOUX CITY (SC2 KU1A) 345/230/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.51877	101.1338	GEN562003 1-G11_027_3 0.6900
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.5175	100.6216	NELIGH.EAST3345.00 (NELIGH.E T1) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	9	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	100.3748	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	100.3565	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018_BPS ON_HOSKINSOF F	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	157.4083	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	18SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	130.658	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09_BPSON_HOS KINSOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	130.5224	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	18WP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	130.4318	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	130.264	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	13WP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	130.1949	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	13SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	130.1773	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	18SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	127.0354	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	18WP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.8093	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	13WP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.6155	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.6022	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09G12_018_BPS ON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.5206	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09G12_018	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.4985	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	13SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.4818	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	9	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	99.9	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	99.9	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.27498	101.4047	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.27513	100.6518	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018HOS KINSOFF	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.27498	100	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018_BPS ON_HOSKINSOF F	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1	336	0.72497	100.6956	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018_BPS ON_HOSKINSOF F	0	13G	G12_018	TO->FROM	SIOUX CITY - TWIN CHURCH 230KV CKT 1	320	0.80638	109.7188	G10-51T 230.00 - HOSKINS 230KV CKT 1
FNSL-Blown up	03ALL	0	13G	G12_020		Non-Converged Contingency	1792	0.03828	-	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	06G12_020	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.50795	121.4962	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06G12_020	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.50795	120.0953	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06G12_020	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.4965	118.9784	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	06G12_020	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.4965	117.3262	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	3	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19246	107.9265	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	08G12_023	0	13G	G12_023	FROM->TO	HUNTERS7 345.00 - WOODRING 345KV CKT 1	956	1	104.0477	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FNSL-Blown up	03ALL	0	13G	G12_024		Non-Converged Contingency	1792	0.11035	-	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	00NR	0	23SP	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03594	103.8461	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03NR	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03367	101.7038	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	08G12_027	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.4838	109.645	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	08G12_027	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.4838	109.2957	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	08G12_027	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.4838	106.9892	DOMES - PAWHUSKA TAP 138KV CKT 1
FDNS	08G12_027	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.4838	105.9227	DOMES - MOUND ROAD 138KV CKT 1
FDNS	8	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.4838	101.615	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	8	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.4838	101.2659	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	00G12_027	0	13SP	G12_027	'FROM->TO'	'FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1'	152	0.59629	102.3878	'4REMNGTON 138.00 - FAIRFAX 138KV CKT 1'
FDNS	00G12_027	0	13SP	G12_027	'TO->FROM'	'FAIRFAX TAP - SHIDLER 138KV CKT 1'	152	0.59629	102.4094	'4REMNGTON 138.00 - FAIRFAX 138KV CKT 1'
FDNS	00G12_028	0	23SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.27005	124.1285	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G12_028	0	18SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.26978	118.3397	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G12_028	0	13SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.2697	113.2388	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G12_028	0	18SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61889	104.7603	GOTEBO - MOUNTAIN VIEW 69KV CKT 1
FDNS	00G12_028	0	18WP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.26983	104.1493	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G12_028	0	18WP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61892	104.0918	GOTEBO - MOUNTAIN VIEW 69KV CKT 1
FDNS	00G12_028	0	13WP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61665	103.2795	GOTEBO - MOUNTAIN VIEW 69KV CKT 1
FDNS	00G12_028	0	13WP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.26972	102.8187	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G12_028	0	13SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61645	102.3877	GOTEBO - MOUNTAIN VIEW 69KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00G12_028	0	23SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61975	101.9009	GOTEBO - MOUNTAIN VIEW 69KV CKT 1	
FDNS	07G12_029	2	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.35164	101.1177	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1	
FDNS	07G12_029	0	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.34898	100.6593	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1	
FDNS	07G12_029	3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36051	102.9289	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1	
FDNS	07G12_029	3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36051	100	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1	
FDNS	07G12_029	0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.57197	103.4027	STLN-DEMARC6 - SWEETWATER 230KV CKT 1	
FDNS	07G12_029	0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.57197	103.3949	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1	
FDNS	7	0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.57198	101.6113	STLN-DEMARC6 - SWEETWATER 230KV CKT 1	
FDNS	7	0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.57198	101.603	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1	
FDNS	07G12_029	0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.51704	101.5439	GEN560290 1-G08-23 0.5750	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.0456	105.7444	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.04566	105.4631	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.05046	105.2104	CIMARRON - DRAPER LAKE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.05068	104.4323	CIMARRON - DRAPER LAKE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.0456	104.1426	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.04062	104.0152	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.04566	103.8575	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.04072	103.5521	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.03525	102.6647	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.03538	102.1376	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.04042	101.3673	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.04052	100.9179	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.04062	100.6554	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.04072	100.1915	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.24264	123.0129	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20236	122.2489	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19085	120.1879	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20371	119.1013	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.24483	119.0787	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19392	118.7756	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19241	116.7212	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20055	116.3485	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19745	116.3028	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21044	115.6525	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19541	115.5803	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19735	114.8135	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21044	114.6405	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19712	114.5673	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.23818	114.3394	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19472	114.206	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19268	114.0004	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2018	113.3982	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19007	113.2721	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19472	112.8771	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19381	112.8075	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19935	112.7314	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19244	112.5403	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19381	112.3612	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19381	112.3435	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19381	112.2251	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	112.1011	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	112.0358	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	111.9418	GEN520947 1-HUGO1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19109	111.8323	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20266	111.4768	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19892	111.4516	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19017	111.4504	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21266	111.4366	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19017	111.3421	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	111.3075	GEN509406 1-WELSH #3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	111.3073	GEN509405 1-WELSH #2	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21227	111.2328	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19869	111.2097	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	111.156	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19616	111.1167	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	111.1128	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19617	110.9762	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19099	110.9232	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	110.8341	GEN509404 1-WELSH #1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19415	110.7765	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	110.7231	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19642	110.706	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19087	110.6055	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2402	110.5948	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	110.5104	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19087	110.4844	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	110.4357	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	110.4241	GEN515225 1-MUSKOGEE 5G	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21266	110.3874	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	110.2941	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	110.149	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19254	110.0447	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.22009	110.0185	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19087	109.9433	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19152	109.9409	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18423	109.8877	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20264	109.8398	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19051	109.773	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	109.7308	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19041	109.7236	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18944	109.6721	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19617	109.6419	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19103	109.6317	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19525	109.6124	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19041	109.5593	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19901	109.5214	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18891	109.5087	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19306	109.4912	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19019	109.4791	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18893	109.4779	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19383	109.4631	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18962	109.4604	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19051	109.4355	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19246	109.4286	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21225	109.4076	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1901	109.3749	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	109.3362	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	109.325	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19664	109.3164	CIMARRON (CIMARRON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19059	109.2838	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18944	109.2002	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19027	109.1989	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19087	109.1955	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19176	109.1835	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19041	109.1791	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19066	109.1649	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1912	109.1647	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19525	109.1637	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19525	109.1482	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19003	109.1259	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1964	109.0583	CIMARRON (CIMARRON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19176	109.0567	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19525	109.0298	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.22009	109.0294	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21999	109.0104	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.9807	GEN303007 1-1BC2 U2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.9738	GEN303006 1-1BC2 U1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.9734	GEN303008 1-1BC2 U3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18961	108.9666	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18961	108.9572	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19016	108.9297	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19016	108.9297	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19089	108.9043	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19069	108.8966	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1901	108.862	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.8587	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19021	108.8316	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.8253	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.8217	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	108.8123	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19089	108.8084	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1902	108.8023	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19021	108.7814	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19069	108.756	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19131	108.7508	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	108.7446	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19044	108.7433	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19116	108.743	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19009	108.7367	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19003	108.7363	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1892	108.7336	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18993	108.7199	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19026	108.7051	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18985	108.6888	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19067	108.6731	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.16759	108.6722	MUSKOGEE - SEMINOLE 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18993	108.6662	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	108.6655	GEN520947 1-HUGO1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.6543	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.645	GEN336831 1-BAXTER WILSON SES	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18991	108.6296	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19256	108.6016	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18935	108.5964	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1906	108.5861	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.5775	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19015	108.5715	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1892	108.5713	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18372	108.5692	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19115	108.5624	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.5618	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.5614	GEN337041 1-GERALD ANDRUS	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19065	108.5564	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.5538	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.5532	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19026	108.5521	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.5395	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.5364	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18953	108.5109	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18981	108.4994	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.4951	GEN562052 1-G11_040_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18935	108.49	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.4863	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18995	108.4836	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.4769	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18935	108.4673	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19021	108.4666	LONEOK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1906	108.4449	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19087	108.4395	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19116	108.4076	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18989	108.3937	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19111	108.383	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19011	108.3803	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18989	108.3791	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19005	108.3735	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19031	108.3656	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.3641	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.3641	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.3483	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19	108.3464	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18989	108.3342	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	108.3318	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.3251	GEN336170 1-GULF OXY U4	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18992	108.32	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19031	108.3096	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19031	108.3064	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18989	108.3051	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.3048	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.2968	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18996	108.2807	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19002	108.2722	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19159	108.251	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19058	108.2487	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19031	108.2483	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18978	108.2443	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19009	108.2368	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.22007	108.2364	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19022	108.2363	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19116	108.2339	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1897	108.2148	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1897	108.2024	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19111	108.1933	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19067	108.182	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18992	108.1699	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19011	108.1634	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18944	108.1567	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18975	108.1515	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1902	108.1512	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18999	108.1415	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19016	108.139	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18988	108.1371	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18995	108.1332	MOORE - PAULINE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19054	108.1329	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19159	108.1324	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19004	108.1323	HEFNER - TULSA 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19009	108.1192	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19031	108.1167	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19005	108.1154	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18991	108.1129	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18999	108.0981	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19031	108.0928	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18989	108.0888	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18983	108.0832	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18983	108.0822	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19001	108.0813	EL RENO SW - MUSTANG 69KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19054	108.0788	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19011	108.0784	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.0698	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18976	108.0698	BRISTOW - SILVER CITY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18982	108.0653	NORTHWEST - PIEDMONT 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1902	108.0514	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	108.0467	GEN509406 1-WELSH #3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	108.0465	GEN509405 1-WELSH #2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19054	108.0308	OIL CENTER - STRATFORD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19133	108.0231	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19753	107.9912	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	107.8901	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	107.7595	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19245	107.7031	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.6	BASE CASE	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	107.5797	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20512	107.5329	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	107.5066	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.4302	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19225	107.4061	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20656	107.3833	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.34	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.3356	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.3265	GEN520811 1-ANADRK4	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.3242	GEN520812 1-ANADRK5	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.3236	GEN520813 1-ANADRK6	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19225	107.2856	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19823	107.2747	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.22007	107.2477	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	107.2332	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20865	107.2265	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.2083	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1988	GEN652556 2-OAHE	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1988	GEN652557 4-OAHE	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1988	GEN652558 6-OAHE	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1938	GEN562029 1-G11_018_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1834	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1834	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1631	GEN514905 1-REDBUD3S	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	107.161	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	107.1499	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1906	107.1493	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1486	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1906	107.148	BURGETT4 138.00 - RNDARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19001	107.1415	KEO EHV - WEST MEMPHIS 500 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1906	107.1409	ARCADIA - RNDARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1392	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1386	GEN514899 1-REDBUD1S	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1376	GEN562314 1-G12-039 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1311	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18978	107.1254	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1159	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1158	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1133	GEN560166 1-G07-48 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1121	GEN514942 2-REDBUD4G	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19039	107.1097	DELAWARE - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1091	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.0988	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18922	107.0844	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	107.0828	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.078	GEN514910 2-REDBUD GEN	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.0768	GEN560282 1-G08-19 0.6000	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.0764	GEN560175 1-G07-44 0.5750	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.0742	GEN560711 1-G10_044_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.0736	GEN546698 1-QN GEN2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18934	107.0577	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18995	107.0483	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18982	107.048	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18998	107.0386	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18999	107.0334	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.0152	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.0069	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18981	106.9994	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18981	106.9984	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.9961	GEN560339 1-G10-48 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.9794	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.9794	GEN562119 1-G12_007_3 13.800	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.9628	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.9565	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18981	106.9484	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19055	106.9287	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19004	106.9286	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19004	106.9286	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.9274	GEN562317 1-G12-040 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19087	106.9272	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.9172	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.9111	GEN560331 1-G10-46 13.800	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.9031	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19	106.8983	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19	106.8951	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18934	106.8924	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18979	106.8898	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.8867	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.8805	GEN301380 1-10SAGEWIND 34.500	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	106.872	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19	106.8639	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19098	106.8599	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.858	GEN562092 1-G12_001_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.8478	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.8412	GEN560666 1-G10-056 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.838	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18986	106.774	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19225	106.7668	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.7509	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19405	106.7251	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.7211	GEN562327 1-G12-026 13.800	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18567	106.7192	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.7051	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18857	106.6889	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.6767	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18953	106.6537	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19192	106.634	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19182	106.5845	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.5504	GEN546702 1-NM GEN N1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.4989	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.4955	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19384	106.4934	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	106.4815	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19087	106.481	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19098	106.4614	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18857	106.4259	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	106.422	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19182	106.4211	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19248	106.3861	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.3571	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19045	106.3454	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20114	106.3403	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19034	106.3251	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20865	106.3085	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19036	106.308	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20114	106.306	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19192	106.2998	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19387	106.2755	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19098	106.2749	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19464	106.2652	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19011	106.2645	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.2599	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.2599	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19159	106.2569	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19015	106.2549	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.2225	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.1947	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	106.1891	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1915	106.1402	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1901	106.1215	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19136	106.1212	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1895	106.1118	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.1056	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.1056	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	106.1056	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	106.1003	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19811	106.0896	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	106.0873	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19203	106.0838	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1825	106.0684	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19227	106.0551	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19182	106.0455	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2051	106.0291	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19318	106.0089	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19087	105.9977	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19165	105.9957	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.9574	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.9469	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19198	105.9454	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19265	105.9321	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19144	105.9123	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.9089	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.8946	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.8875	GEN520997 1-MORLND2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.8751	GEN560669 1-G10_057 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19318	105.8648	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.8605	GEN527165 1-Mustang Gen #5	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2008	105.8596	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.8593	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.8501	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.8446	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.8412	GEN520998 1-MORLND3	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19786	105.8358	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19014	105.8273	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.22144	105.8101	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.7838	GEN562298 1-G12-024 0.6500	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.16899	105.7837	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.7828	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.7792	GEN562320 1-G12-041 18.000	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.7717	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19104	105.7715	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19104	105.7715	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.7473	GEN303007 1-1BC2 U2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.7469	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	105.7467	GEN520947 1-HUGO1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.7405	GEN303006 1-1BC2 U1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.7402	GEN303008 1-1BC2 U3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19213	105.7065	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19233	105.6961	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.696	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.6844	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.6618	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.6618	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19151	105.6536	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19165	105.6416	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.6386	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.6301	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19086	105.6219	OAKCREEK - WILD MARY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19158	105.6023	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.6014	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19233	105.6001	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.598	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19162	105.5968	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19151	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19151	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19103	105.5955	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19213	105.5651	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.25306	105.5639	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21067	105.5636	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.5629	GEN527166 1-MUSTANG 6 18.000	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19187	105.5628	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19063	105.5614	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19152	105.5608	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.5395	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19167	105.5385	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1926	105.5382	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19277	105.5374	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19144	105.5291	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19137	105.5291	NORTHWEST - PANTHER 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.5291	GEN560329 1-G10-45 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18903	105.527	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19211	105.496	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19127	105.4952	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	105.479	GEN509406 1-WELSH #3	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	105.4784	GEN509404 1-WELSH #1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19137	105.4757	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	105.475	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18516	105.4491	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19135	105.4364	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.4337	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.4331	GEN562322 1-G12-042 13.800	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.4221	GEN336831 1-BAXTER WILSON SES	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	105.4173	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19078	105.4172	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.4052	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19187	105.4015	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19063	105.3991	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19157	105.3876	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19189	105.3774	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.3747	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19259	105.3607	MCLLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19147	105.3539	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19165	105.3537	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.3522	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.3513	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.346	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.3432	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.3378	GEN337041 1-GERALD ANDRUS	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.3361	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.3297	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19096	105.3228	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21036	105.3216	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19061	105.3181	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19078	105.3135	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19124	105.3068	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19086	105.304	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.2934	GEN562052 1-G11_040_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19078	105.2883	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18892	105.2875	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.2725	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19137	105.2694	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.2632	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19165	105.2546	LONEOK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	105.2535	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19203	105.227	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19132	105.2129	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19238	105.2037	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1926	105.2029	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.2005	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19253	105.1981	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19132	105.1969	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1915	105.1928	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.17611	105.1812	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18892	105.1812	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19146	105.1721	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19174	105.1716	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.163	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.163	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.1521	GEN599891 1-OKLAUN	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19132	105.1511	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.1505	GEN562308 1-G12-037 18.000	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1914	105.1497	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.1496	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.1478	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.1464	GEN526334 1-JONES 4 116.500	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19142	105.1413	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19135	105.1288	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19132	105.1221	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.1221	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19174	105.1204	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.1185	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19174	105.1171	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.0995	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19086	105.0907	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19144	105.0889	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19173	105.0866	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.0857	GEN562311 1-G12-038 18.000	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19138	105.0788	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19207	105.0676	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.17611	105.0645	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1912	105.0622	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19152	105.0502	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19112	105.0481	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19112	105.0446	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19202	105.0378	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19157	105.0316	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1926	105.0293	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	105.0232	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19253	105.0004	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20829	104.9918	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19135	104.9916	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19147	104.991	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19087	104.9819	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19147	104.9802	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19154	104.9759	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19173	104.973	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19118	104.9698	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19163	104.9678	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19142	104.9663	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19131	104.9659	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19158	104.9535	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19197	104.9481	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19147	104.948	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19146	104.9436	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19271	104.9385	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19134	104.9327	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19137	104.9245	MOORE - PAULINE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	104.9243	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19142	104.9216	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19152	104.9164	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19174	104.9035	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19143	104.9018	EL RENO SW - MUSTANG 69KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19132	104.9002	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19126	104.9	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19126	104.8992	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.8958	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19197	104.8938	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19154	104.8909	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19147	104.8877	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19118	104.8709	BRISTOW - SILVER CITY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19163	104.8678	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19197	104.846	OIL CENTER - STRATFORD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19086	104.8387	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.8314	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.7808	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.7553	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19127	104.7125	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18831	104.695	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.651	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.6289	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.5579	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18959	104.555	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19127	104.5424	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	104.5043	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18959	104.4332	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	104.4325	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	104.4213	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.4152	BASE CASE	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.4148	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.3717	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.336	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.3305	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19009	104.2934	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	104.276	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.2284	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19083	104.2239	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19518	104.2112	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.2021	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.1721	GEN531447 1-HOLCOMB GENERATOR	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19127	104.1524	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.1262	GEN520812 1-ANADRK5	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.1256	GEN520813 1-ANADRK6	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.0947	GEN520811 1-ANADRK4	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.0903	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19122	104.0854	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.0844	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	104.0587	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21065	104.0467	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.25304	104.0171	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.0143	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.0121	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	104.0121	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19009	104.001	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19009	104.001	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9739	GEN562314 1-G12-039 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.9669	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19203	103.9661	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19203	103.9649	BURGETT4 138.00 - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.9633	GEN562017 1-G11_022_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9613	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9612	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19203	103.9578	ARCADIA - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18332	103.9532	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19121	103.9526	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9481	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9476	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9459	GEN560166 1-G07-48 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9383	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9357	GEN514905 1-REDBUD3S	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9348	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.9304	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9261	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18959	103.9253	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9086	GEN514899 1-REDBUD1S	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19065	103.9068	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.906	GEN560711 1-G10_044_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19143	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19143	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.9005	GEN546698 1-QN GEN2	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.8925	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18928	103.8882	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19138	103.8837	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.8791	GEN514942 2-REDBUD4G	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1914	103.8763	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	103.8675	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.8656	GEN560282 1-G08-19 0.6000	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.8649	GEN560175 1-G07-44 0.5750	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19077	103.8628	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19667	103.8551	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.8517	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.8412	GEN514910 2-REDBUD GEN	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.8409	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.8357	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19143	103.8343	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.8339	GEN560339 1-G10-48 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19124	103.8265	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.8262	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.8262	GEN562119 1-G12_007_3 13.800	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19124	103.8255	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21034	103.8064	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.7953	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.7895	GEN515606 1-CANADN11 34.500	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.7895	GEN515607 1-CANADN12 34.500	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.7886	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19124	103.7761	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21857	103.7532	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18923	103.7514	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18928	103.7489	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19229	103.7488	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.744	GEN560331 1-G10-46 13.800	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.7428	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.739	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.7388	GEN562317 1-G12-040 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18979	103.7291	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19143	103.7234	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19143	103.7201	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19122	103.7189	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.7108	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18838	103.7082	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18843	103.6985	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19077	103.6977	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19199	103.6925	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.6916	GEN562092 1-G12_001_3 0.6900	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.682	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.6806	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19989	103.679	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19989	103.679	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.6746	GEN560666 1-G10-056 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.673	GEN301380 1-1OSAGEWIND 34.500	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19096	103.6704	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19143	103.6608	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18897	103.6376	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18907	103.6191	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.6098	GEN562099 1-G11_054 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.6098	GEN562100 1-G11_054 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19129	103.6088	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.597	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18939	103.5811	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.5745	GEN562327 1-G12-026 13.800	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.5466	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18999	103.526	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.5156	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20827	103.4984	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18773	103.4913	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19114	103.485	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18959	103.479	PITTSBURG - VALLIANT 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18907	103.4635	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19007	103.4527	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.4492	GEN562023 1-G11_020_3 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.4492	GEN562026 1-G11_019_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19168	103.4461	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.4406	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.4262	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18887	103.4223	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18923	103.4113	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.3718	GEN546702 1-NM GEN N1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.3489	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18923	103.3425	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.3423	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.3304	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19527	103.3069	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19264	103.2822	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	103.2808	GEN640009 1-COOPER NUCLEAR STATION	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19183	103.2726	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18905	103.2509	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18999	103.2466	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18878	103.2403	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1894	103.2343	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.2343	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.2341	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	103.2332	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18879	103.2313	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19096	103.2177	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18905	103.2128	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18761	103.2084	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19031	103.18	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18878	103.1724	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20922	103.1603	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19156	103.1366	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.1297	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.1296	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19153	103.1029	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18907	103.0978	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.0977	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.097	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.0855	GEN303007 1-1BC2 U2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.0812	GEN303006 1-1BC2 U1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.0808	GEN303008 1-1BC2 U3	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.0709	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	103.0601	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	103.0591	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	103.0294	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	18SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20627	103.0155	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	103.0012	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.9824	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.9824	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.9824	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1839	102.9808	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18892	102.9762	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18892	102.9762	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.976	GEN336251 1-NINEMILE POINT UNIT#4	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1888	102.9739	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.9692	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19093	102.965	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19152	102.9639	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21086	102.9467	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1894	102.9455	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	102.9233	GEN514805 1-SOONER UNIT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1928	102.9108	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18886	102.9032	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.8966	GEN509391 G1-ARSENAL HILL GENS #2 (STALL)	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.8966	GEN509392 G2-ARSENAL HILL GENS #3 (STALL)	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18817	102.886	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.8854	GEN509393 S1-ARSENAL HILL GENS #4 (STALL)	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18835	102.8439	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18835	102.8438	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.8417	GEN562065 1-G11_044_3_0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18879	102.8406	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19264	102.8393	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18897	102.8338	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.8289	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18869	102.817	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1894	102.8089	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18938	102.7986	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.796	GEN520997 1-MORLND2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18905	102.7869	LONEOK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.16738	102.7823	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18799	102.7786	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18917	102.7753	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.7632	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.7573	GEN560714 1-G10_061_3_0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.7519	GEN520998 1-MORLND3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2031	102.7498	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18861	102.7488	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18285	102.7467	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.7451	GEN562078 1-G11_051_3_0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18896	102.736	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18979	102.7311	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20367	102.7287	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.7258	GEN527165 1-Mustang Gen #5	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.7245	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.7212	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.716	GEN560669 1-G10_057_0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.7105	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2031	102.7023	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.7014	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18901	102.6914	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.6863	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.684	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18932	102.684	MCCLAIN - WILROGR4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19156	102.6746	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20286	102.6741	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19264	102.6622	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.6612	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20697	102.6606	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.6545	GEN562298 1-G12-024_0.6500	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.6532	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18872	102.6467	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.6442	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.6366	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18799	102.6186	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.6182	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	102.5901	GEN560687 1-G11-007_0.5750	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19158	102.5824	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19158	102.5824	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	102.5762	GEN520947 1-HUGO1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18937	102.5761	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.576	GEN562320 1-G12-041_18.000	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.5691	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1883	102.5592	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.5579	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.5445	GEN562052 1-G11_040_3_0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1894	102.5437	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18928	102.5347	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18817	102.5301	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.5292	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.5292	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1889	102.5288	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18901	102.5165	TULSA NORTH - WEKIWA 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18857	102.5075	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.5053	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18876	102.5038	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18921	102.501	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18977	102.4857	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.481	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.4675	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.4675	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18853	102.4497	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.4412	GEN527166 1-MUSTANG_6 18.000	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18817	102.4402	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18953	102.44	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18962	102.4371	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18983	102.4347	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18888	102.4343	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18921	102.4301	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19043	102.4277	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18904	102.4272	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.4219	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.4205	GEN560329 1-G10-45 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18817	102.417	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18881	102.4152	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18873	102.4088	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19229	102.4047	OAKCREEK - WILD MARY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18977	102.4031	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18979	102.4023	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20073	102.4006	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18866	102.3911	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18862	102.3875	NW164TH4 138.00 - PIEDMONT 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18862	102.3856	NORTHWEST - NW164TH4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18866	102.3826	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1888	102.3755	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	102.3682	GEN562285 1-G12-031 0.6900	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	102.3653	GEN514806 1-SOONER UNIT 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.358	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18872	102.3532	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	102.3422	GEN562010 1-G11_024_3 0.6900	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	102.3419	GEN509406 1-WELSH #3	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	102.3413	GEN509404 1-WELSH #1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18866	102.339	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18931	102.3355	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18869	102.3338	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18862	102.3333	PIEDMONT - RICHRDS 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.3157	GEN562322 1-G12-042 13.800	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	102.3119	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18866	102.3091	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.2995	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18881	102.2994	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1928	102.2963	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	102.2591	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19061	102.251	HOLLYWOOD - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19025	102.2489	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.2485	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18862	102.2465	DIVISION AVE - RICHRDS 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18872	102.2437	MOORE - PAULINE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18847	102.2417	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18886	102.2414	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18983	102.2387	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18841	102.2375	DIVISION AVE - SILVER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18979	102.2328	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18894	102.2314	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18892	102.2314	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18894	102.2282	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18847	102.2282	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18823	102.2193	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18852	102.2153	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18875	102.2099	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18879	102.2098	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18928	102.2087	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18977	102.2038	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19201	102.1997	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18917	102.1958	CHERRY CREEK - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.17747	102.1835	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18881	102.1825	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18892	102.1729	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18875	102.1671	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18865	102.1622	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18863	102.16	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18866	102.1571	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18886	102.1569	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18928	102.1536	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18872	102.1369	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18867	102.126	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19025	102.1232	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19229	102.1166	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	102.113	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.17747	102.0697	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.0536	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.0402	GEN562308 1-G12-037 18.000	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20697	102.0153	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.0067	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21086	102.0057	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	102.0054	GEN526334 1-JONES_4 116.500	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.9985	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.9941	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20697	101.9932	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.9902	GEN562311 1-G12-038 18.000	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	101.9694	GEN525561 1-TOLK GEN #1 24 KV	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1928	101.9344	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1928	101.9236	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19229	101.904	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.9003	GEN599891 1-OKLAUN	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1928	101.8317	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20697	101.8274	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	101.8244	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21109	101.7986	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.766	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.6904	BASE CASE	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20268	101.6814	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.6641	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19229	101.6491	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	2	18SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1971	101.644	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.6376	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.6248	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20073	101.5627	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.528	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18974	101.5267	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.5073	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	101.5041	GEN520947 1-HUGO1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19088	101.4943	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.4921	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2088	101.4791	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.479	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19262	101.4653	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.463	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	101.4554	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.4269	GEN549893 2-SOUTHWEST 2	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19088	101.3776	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18821	101.3728	LYDIA - VALLIANT 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.3646	GEN520812 1-ANADRK5	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.3642	GEN520813 1-ANADRK6	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.3637	GEN520811 1-ANADRK4	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	101.3617	GEN525562 1-TOLK GEN #2 24 KV	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	101.3562	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.3511	GEN511851 1-COMANCHE #1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	101.3182	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18946	101.3166	FOREST HILL - SQUIRL CREEK 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.3003	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2986	GEN562029 1-G11_018_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2963	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2963	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	01NR	2	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21926	101.2881	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	101.2867	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	101.2758	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2595	GEN514942 2-REDBUD4G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2587	GEN539677 3-A. M. MULLERGREN GENERATOR	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2581	GEN562314 1-G12-039 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20451	101.2533	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2489	GEN514905 1-REDBUD3S	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2466	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.2423	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.2422	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20365	101.241	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2408	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.2295	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2289	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2251	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2239	GEN514899 1-REDBUD1S	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2218	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2197	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.219	GEN560166 1-G07-48 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18872	101.2145	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18867	101.2127	BAXTER WILSON SES - PERRYVILLE 500KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.2101	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20284	101.1976	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18855	101.1933	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18947	101.1902	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18947	101.1892	BURGETT4 138.00 - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.1879	GEN560711 1-G10_044_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.1863	GEN560282 1-G08-19 0.6000	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.1858	GEN560175 1-G07-44 0.5750	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18947	101.1815	ARCADIA - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18803	101.1797	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20695	101.1794	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.1785	GEN546698 1-QN GEN2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18874	101.1627	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.1618	GEN514910 2-REDBUD GEN	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19082	101.161	DRAPER LAKE - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.1556	GEN522866 2-LUBBOCK POWER & LIGHT-HOLLY GEN	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18878	101.1538	KEO EHV - WEST MEMPHIS 500 500KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.153	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18854	101.1434	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1915	101.14	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	101.1368	GEN531447 1-HOLCOMB GENERATOR	
FDNS	01NR	2	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.22773	101.1174	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19655	101.1163	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18889	101.1161	ELKCITY7 345.00 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.115	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1922	101.1107	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.1048	GEN560339 1-G10-48 0.6900	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	101.0985	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.0951	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.0951	GEN562119 1-G12_007_3 13.800	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18859	101.0745	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.0718	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.0704	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1888	101.0615	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1888	101.0615	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18962	101.0427	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.0347	GEN560331 1-G10-46 13.800	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.0316	GEN562317 1-G12-040 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18797	101.0284	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18857	101.0107	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18857	101.0097	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.0011	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18878	100.9978	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18878	100.9932	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.993	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.9754	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.9751	GEN562092 1-G12_001_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.975	GEN301380 1-10SAGEWIND 34.500	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.9724	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.972	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.9715	GEN562017 1-G11_022_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.9681	GEN560666 1-G10-056 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18844	100.9656	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19903	100.9642	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18938	100.952	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18881	100.9511	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1897	100.9469	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18466	100.9327	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18857	100.9245	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.9221	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.9141	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20103	100.9079	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	100.8865	GEN515040 1-SEMINOLE 1G	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	100.8798	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18797	100.8796	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.8789	GEN659118 1-LARAMIE RIVER UNIT1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20105	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20105	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19088	100.8733	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1915	100.8541	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1915	100.8541	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.8515	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.8508	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20369	100.8497	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1892	100.8465	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.842	GEN562327 1-G12-026 13.800	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18746	100.8277	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19063	100.8141	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.7954	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	100.7938	GEN509406 1-WELSH #3	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	100.7933	GEN509405 1-WELSH #2	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	100.7931	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20103	100.7906	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1883	100.7793	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.7662	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19054	100.7515	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	18SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2073	100.7426	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	100.7199	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21991	100.6951	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19063	100.673	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.6653	GEN546702 1-NM GEN N1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18892	100.6523	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18971	100.6493	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	100.6464	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19252	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19252	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19114	100.6402	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	100.6336	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	100.613	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.6117	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19038	100.608	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19253	100.5805	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18746	100.5797	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19231	100.5748	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.5576	GEN562023 1-G11_020_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.5576	GEN562026 1-G11_019_3 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.5568	GEN515606 1-CANADN11 34.500	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.5568	GEN515607 1-CANADN12 34.500	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19063	100.5532	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.5459	GEN659285 1-DEERCREEK 1G13.800	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.5429	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19027	100.5417	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1897	100.5392	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20695	100.534	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18837	100.5147	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19073	100.5128	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20695	100.5119	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.4819	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19244	100.4693	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20075	100.4571	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19038	100.4533	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18906	100.4497	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19826	100.4494	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19054	100.4134	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18902	100.4041	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19099	100.4024	PITTSBURG - VALLIANT 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19142	100.3798	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.3731	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.3731	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.3693	GEN539670 4-JUDSON LARGE GENERATOR	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.3661	GEN562099 1-G11_054 0.6900	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.3661	GEN562100 1-G11_054 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1897	100.3661	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19917	100.3498	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19315	100.3465	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20695	100.3461	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.3409	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	100.3332	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.3274	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.3237	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19018	100.3234	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	100.3171	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19917	100.3148	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2009	100.3108	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21108	100.2874	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18117	100.2871	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19681	100.2767	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19058	100.2717	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2017	100.2712	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	01NR	0	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.22039	100.2549	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.2515	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.2515	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.2515	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20267	100.2087	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18891	100.2019	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	100.1917	GEN640009 1-COOPER NUCLEAR STATION	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1904	100.1894	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18825	100.1796	LYDIA - VALLIANT 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19012	100.1769	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18895	100.1606	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18973	100.1565	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19033	100.1516	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19011	100.1479	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.134	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19063	100.1338	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18997	100.133	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20102	100.1287	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2017	100.112	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19012	100.1085	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.0968	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19168	100.0916	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19038	100.0899	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	100.0893	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20257	100	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20073	100	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20073	100	GEN520947 1-HUGO1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.16869	100	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21109	99.9	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20879	99.9	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20068	99.9	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19074	99.9	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19013	99.9	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18897	99.9	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	99.9	GEN520997 1-MORLND2	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	99.9	GEN562298 1-G12-024 0.6500	
FDNS	01NR	0	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.22966	99.9	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.05199	100.5142	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.05199	100.0985	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - SARA 138KV CKT 1	382	0.0592	105.8681	CIMARRON - DRAPER LAKE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - SARA 138KV CKT 1	382	0.05959	104.3677	CIMARRON - DRAPER LAKE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.10894	116.1887	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.10894	115.4263	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.10894	114.235	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.10894	113.4719	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08253	112.6042	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08154	111.6439	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08354	109.9522	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08253	109.4366	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11528	109.3139	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11528	109.2972	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08268	108.7566	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08154	108.4681	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11528	107.17	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11528	107.1535	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08354	106.629	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08268	105.386	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.1139	104.2906	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.1139	102.5236	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11476	102.1794	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11476	100.3669	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.10764	114.774	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.10764	114.021	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.10764	112.8585	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.10764	112.1047	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0815	111.4611	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08057	110.5671	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08251	108.8555	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0815	108.0982	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11385	107.9323	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11386	107.9159	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0817	107.7295	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08057	107.2049	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11385	105.8293	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11386	105.813	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.08251	105.3392	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0817	104.1748	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11249	102.9718	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB	TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)	
FDNS	00NR	2	18SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11249	101.2422	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	18SP	G12_031	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11334	100.8885	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12_031	FROM->TO	CZECH HALL - XEROX 138KV CKT 1	382	0.05084	109.3601	CIMARRON - HAYMAKER 138KV CKT 1
FDNS	00NR	2	13WP	G12_031	FROM->TO	CZECH HALL - XEROX 138KV CKT 1	382	0.05084	107.889	DIVISION AVE - HAYMAKER 138KV CKT 1
FDNS	00NR	2	13WP	G12_031	FROM->TO	CZECH HALL - XEROX 138KV CKT 1	382	0.05636	107.6221	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	2	13WP	G12_031	FROM->TO	CZECH HALL - XEROX 138KV CKT 1	382	0.04535	105.2689	CIMARRON - SARA 138KV CKT 1
FDNS	00NR	2	13WP	G12_031	FROM->TO	CZECH HALL - XEROX 138KV CKT 1	382	0.03941	102.9007	DIVISION AVE - MUSTANG 138KV CKT 1
FDNS	00NR	2	18WP	G12_031	FROM->TO	CZECH HALL - XEROX 138KV CKT 1	382	0.04521	102.4631	CIMARRON - SARA 138KV CKT 1
FDNS	00NR	2	13WP	G12_031	FROM->TO	CZECH HALL - XEROX 138KV CKT 1	382	0.04535	102.1934	MCCLAIN - SARA 138KV CKT 1
FDNS	00NR	2	13SP	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.05929	106.8525	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	2	13SP	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.05929	102.239	CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	2	13SP	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.05929	102.0665	MORGAN - XEROX 138KV CKT 1
FDNS	00NR	2	13SP	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.05929	100.8809	MORGAN - MUSTANG 138KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04428	133.8372	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04428	133.5025	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04428	131.2878	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04428	130.9544	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	01NR	2	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03494	105.7321	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	01NR	0	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03548	105.0932	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0432	104.4226	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04319	104.054	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	01NR	2	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03494	103.9204	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03786	103.4921	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	01NR	0	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03548	103.2716	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03764	103.2373	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03786	103.1998	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03764	102.9465	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0432	102.9264	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0366	102.7223	CIMARRON - HAYMAKER 138KV CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04319	102.5626	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0366	102.4583	CIMARRON - HAYMAKER 138KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03786	101.9767	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0366	101.7811	DIVISION AVE - HAYMAKER 138KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03764	101.7268	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03786	101.685	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0366	101.5169	DIVISION AVE - HAYMAKER 138KV CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03764	101.4367	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0366	101.311	CIMARRON - HAYMAKER 138KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.06006	101.0535	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0366	101.047	CIMARRON - HAYMAKER 138KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03556	100.8755	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.06006	100.6738	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03556	100.6144	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0366	100.4275	DIVISION AVE - HAYMAKER 138KV CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0366	100.1631	DIVISION AVE - HAYMAKER 138KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03556	100	CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03556	100	MORGAN - XEROX 138KV CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04288	122.5131	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04288	122.2072	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04288	120.1546	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04288	119.8492	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07374	119.1013	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1031	119.0787	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07349	118.7289	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10274	118.6065	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0693	116.7212	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06905	116.356	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08206	115.5803	CLEVELAND - SOONER 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08169	115.0791	CLEVELAND - SOONER 345KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07431	113.3982	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07406	113.028	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07215	112.7314	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07191	112.3869	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08667	111.4768	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06921	111.4516	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	111.4366	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08859	111.2328	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06918	111.2097	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06898	111.1222	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07036	111.0839	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08635	111.0816	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0699	110.9762	CIMARRON - SARA 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06895	110.8805	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08826	110.8301	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07672	110.7765	CLEVELAND - TULSA NORTH 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06967	110.6405	CIMARRON - SARA 138KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10171	110.5948	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	110.3874	CIMARRON - MINCO 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07624	110.1945	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10137	110.1445	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07036	110.0341	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08742	110.0185	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07053	109.9409	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06999	109.6419	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0871	109.6255	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06915	109.6124	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07028	109.5793	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08235	109.4631	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06967	109.3086	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06892	109.2829	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06915	109.1637	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06915	109.1482	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06915	109.0298	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08742	109.0294	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08198	108.9735	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06892	108.8345	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06892	108.8191	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	108.8123	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	108.7446	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06892	108.7008	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	108.6655	GEN520947 1-HUGO1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0871	108.6383	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06895	108.6016	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	108.4873	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	108.4189	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	108.3438	GEN520947 1-HUGO1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06872	108.2728	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07021	108.251	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07021	108.1324	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	108.0467	GEN509406 1-WELSH #3	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	108.0465	GEN509405 1-WELSH #2	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07161	107.9912	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	107.8901	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06996	107.8856	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06996	107.7667	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	107.7595	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	107.7242	GEN509406 1-WELSH #3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	107.724	GEN509405 1-WELSH #2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06888	107.7031	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07138	107.6504	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	107.5797	GEN509404 1-WELSH #1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	107.566	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09868	107.5329	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	107.5066	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	107.4276	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07337	107.4061	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06865	107.3768	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07337	107.2856	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07293	107.2747	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	107.2585	GEN509404 1-WELSH #1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	107.2332	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	107.1942	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	107.161	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	107.1499	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	107.0828	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0731	107.0413	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0727	106.9345	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0731	106.9254	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	106.8993	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09807	106.8863	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	106.872	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	106.8277	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	106.8167	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	106.7706	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07337	106.7668	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06839	106.7251	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06513	106.7192	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	106.634	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06849	106.5845	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	106.4815	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06761	106.481	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06491	106.4233	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06849	106.4211	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0731	106.4118	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06817	106.3998	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06862	106.3861	HORSESHOE LAKE - JONES TAP 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06774	106.3251	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06833	106.3102	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06845	106.308	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	106.2998	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06954	106.2755	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06773	106.2652	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06827	106.2605	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06842	106.2569	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	106.1614	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06738	106.157	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06818	106.1402	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	106.1003	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06827	106.0981	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07007	106.0896	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	106.0873	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06864	106.0838	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07092	106.0551	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06839	106.0529	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06849	106.0455	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06842	106.0089	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06818	105.9977	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06819	105.9957	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06751	105.9954	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06833	105.9765	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06517	105.9454	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06931	105.945	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06822	105.9412	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06871	105.9321	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	105.924	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0683	105.9123	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06748	105.8764	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06842	105.8648	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06921	105.8596	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07003	105.8358	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06735	105.8101	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06795	105.8078	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05885	105.7837	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.7817	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06814	105.7715	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06814	105.7715	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.7684	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06841	105.7578	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.7473	GEN303007 1-1BC2 U2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.7405	GEN303006 1-1BC2 U1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.7402	GEN303008 1-1BC2 U3	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06984	105.7383	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06827	105.7227	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0684	105.7065	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06872	105.6961	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07064	105.6875	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	105.6869	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06795	105.6763	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06797	105.6665	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06834	105.6536	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06832	105.6416	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.6386	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06494	105.629	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06848	105.6078	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06812	105.6023	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.6014	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06872	105.6001	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.598	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06883	105.5968	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06766	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06766	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06864	105.5955	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06808	105.5822	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0684	105.5651	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12003	105.5639	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08806	105.5636	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06829	105.5628	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06825	105.5614	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06868	105.5608	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	105.5445	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07007	105.5385	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06872	105.5382	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06861	105.5374	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0683	105.5291	HOYT - STRANGER CREEK 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06827	105.5291		NORTHWEST - PANTHER 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05866	105.5248		MUSKOGEE - SEMINOLE 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06897	105.5231		GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06713	105.5097		CIMARRON - NORTHWEST 345KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0698	105.5071		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06824	105.496		HUGO - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06814	105.4952		WEBRE - WELLS 500KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06827	105.4757		PANTHER - SILVER LAKE 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06791	105.4506		ELDORADO EHV 500/345KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06791	105.45		7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06521	105.4491		CANADIAN RIVER - PITTSBURG 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06826	105.4364		DIVISION AVE - MUSTANG 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.4337		GEN336251 1-NINEMILE POINT UNIT#4
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.4284		GEN303007 1-1BC2 U2
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.4221		GEN336831 1-BAXTER WILSON SES
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.4217		GEN303006 1-1BC2 U1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.4214		GEN303008 1-1BC2 U3
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0678	105.4172		ARCADIA - LGARBER4 138.00 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06723	105.4015		G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06825	105.3991		KINZE - MCELROY 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06919	105.3876		BLACKBERRY - NEOSHO 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06817	105.3829		DIVISION AVE - LAKESIDE 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06849	105.3794		36 & MERIDIAN - CHEMTRON 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06724	105.3774		THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.3747		WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06862	105.3607		MCCLAIN - PLEASANT VALLEY 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06881	105.3537		LACYGNE - NEOSHO 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.3522		GEN334441 1-SABINE UNIT 5
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.346		GEN334070 1-LEWIS CREEK 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.3432		GEN334433 1-SABINE UNIT 3
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.3378		GEN337041 1-GERALD ANDRUS
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.3361		GEN506752 1-LEBROCK GAS 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.3297		GEN334071 1-LEWIS CREEK 2
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08065	105.3228		G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06811	105.3227		SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.322		GEN334440 1-SABINE UNIT 4
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08794	105.3216		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06809	105.3179		LONEOAK - NORTHWEST 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0678	105.3135		CHITWOOD - LGARBER4 138.00 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06811	105.3068		DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.2934		GEN562052 1-G11_040_3 0.6900
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0678	105.2883		CHITWOOD - JONES TAP 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.2845		GEN335204 1-NELSON UNIT 4
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06849	105.2835		CHEMTRON - PENNSYLVANIA 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.2796		GEN336252 1-NINEMILE POINT UNIT#5
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0679	105.2791		MINGO - SETAB 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06743	105.2754		THISTLE7 345.00 - WICHITA 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06743	105.2754		THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.2725		GEN336191 1-LITTLE GYPSY UNIT#3
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06813	105.2694		GRAND ISLAND - SWEETWATER 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0686	105.2635		EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.2632		GEN336464 1-MICHOUUD UNIT #3
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06841	105.2616		OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06832	105.2546		LONEOAK - QUAIL CREEK 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06817	105.2417		HEFNER - LAKESIDE 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06806	105.2389		CORN TAP - PAOLI 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06828	105.227		ANADARKO - GRACMNT4 138.00 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06845	105.2261		KETCH - KETCH TAP 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06849	105.2214		CLASSEN - ROBINSON 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06838	105.2169		KETCH TAP - NORTHWEST 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06816	105.2129		SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06805	105.207		NORTHWEST - PANTHER 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06802	105.205		MCELROY - STILLWATER 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06924	105.2037		WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06872	105.2029		LIGHTNING CREEK - ROBINSON 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.1996		HOYT - STRANGER CREEK 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06871	105.1981		BLANCHARD - CORNVILLE 138KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06816	105.1969		PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08775	105.196		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.11956	105.1945		ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06809	105.1928		HOLCOMB - SETAB 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06791	105.1769		WEBRE - WELLS 500KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06836	105.1721		EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06816	105.1716		HUGO - VALLIANT 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06801	105.1714		HUGO - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.163		GEN334030 1-FRONTIER UNIT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.163		GEN334031 1-FRONTIER UNIT 2
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06805	105.1528		PANTHER - SILVER LAKE 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06816	105.1511	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06879	105.1497	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.1496	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06499	105.1492	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06837	105.1413	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06821	105.1288	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06974	105.1258	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06803	105.1239	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06816	105.1221	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0681	105.1221	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06828	105.1204	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06828	105.1171	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.1165	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.1045	GEN336831 1-BAXTER WILSON SES	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.0995	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06757	105.0942	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0683	105.0889	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06844	105.0866	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.067	105.0862	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06814	105.0788	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06874	105.0676	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06803	105.0622	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06802	105.0571	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06701	105.0567	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06895	105.0524	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06813	105.0502	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06865	105.0481	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.046	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06839	105.0456	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06865	105.0446	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06823	105.0378	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.0366	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06766	105.0316	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.0309	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06872	105.0293	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.0276	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.0221	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06858	105.02	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.0198	GEN337041 1-GERALD ANDRUS	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	105.0147	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06871	105.0004	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08907	104.9918	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06823	104.9916	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06757	104.99	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08032	104.9881	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06788	104.9841	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06812	104.9819	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.9814	GEN562052 1-G11_040_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06821	104.9759	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06844	104.973	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0683	104.9698	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06818	104.9678	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06812	104.9663	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06821	104.9659	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06757	104.9657	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.9561	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08763	104.9543	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	104.9535	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06831	104.9481	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06816	104.948	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.9468	GEN336464 1-MICHOUUD UNIT #3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0679	104.9437	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06826	104.9436	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07719	104.9385	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06809	104.9348	LONEOAK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06828	104.9327	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06813	104.9245	MOORE - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06812	104.9216	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06813	104.9164	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06904	104.9131	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06805	104.9047	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06828	104.9035	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06822	104.9018	EL RENO SW - MUSTANG 69KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06812	104.9002	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.9	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.8992	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06811	104.8958	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06831	104.8938	CIVIT - STRATFORD 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06821	104.8909	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06849	104.8864	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06848	104.8829	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06886	104.8815	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06834	104.8709	BRISTOW - SILVER CITY 138KV CKT 1	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06818	104.8678	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06786	104.8677	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06822	104.8668	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.849	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.849	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06794	104.8489	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06831	104.846	OIL CENTER - STRATFORD 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06813	104.8443	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.8361	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06814	104.815	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06806	104.8071	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06806	104.8038	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06798	104.8038	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06787	104.7997	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.7862	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06821	104.7659	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.7623	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06791	104.7538	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06851	104.7535	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0678	104.7436	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0679	104.7282	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06842	104.715	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06849	104.7129	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06842	104.7125	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06744	104.711	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06799	104.7046	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	104.6912	FAIRFAX TAP - SHIDLER 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	104.6912	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06848	104.6858	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06801	104.6787	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06795	104.6464	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06798	104.6442	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06789	104.6435	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06789	104.6417	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06798	104.641	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06821	104.638	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06797	104.6311	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06793	104.6266	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06808	104.6244	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06803	104.6193	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR		2 13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08875	104.6113	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06805	104.6088	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06786	104.608	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0679	104.6034	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06786	104.6008	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06789	104.599	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06806	104.5903	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06799	104.5802	EL RENO SW - MUSTANG 69KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06784	104.5797	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06784	104.5789	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0679	104.5762	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06788	104.5735	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06808	104.5704	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06786	104.5663	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06798	104.5602	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06786	104.5534	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06795	104.5466	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.4152	BASE CASE	
FDNS	00NR		2 18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07672	104.3658	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.336	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.2021	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.1262	GEN520812 1-ANADRK5	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.1256	GEN520813 1-ANADRK6	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.1035	BASE CASE	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.0947	GEN520811 1-ANADRK4	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.0903	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06829	104.0854	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.0844	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.0143	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR		2 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.0136	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.0121	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	104.0121	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR		0 13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9739	GEN562314 1-G12-039 0.6900	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06852	103.9661	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06852	103.9649	BURGETT4 138.00 - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9613	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9612	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06852	103.9578	ARCADIA - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06812	103.9526	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9481	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9476	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9459	GEN560166 1-G07-48 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9383	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9357	GEN514905 1-REDBUD3S	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9348	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9261	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9086	GEN514899 1-REDBUD1S	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06803	103.9068	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.906	GEN560711 1-G10_044_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06799	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06799	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.9005	GEN546698 1-QN GEN2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06825	103.8837	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.8804	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.8791	GEN514942 2-REDBUD4G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	103.8763	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	103.8675	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.8656	GEN560282 1-G08-19 0.6000	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.8649	GEN560175 1-G07-44 0.5750	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06828	103.8628	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.8517	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.8412	GEN514910 2-REDBUD GEN	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.8357	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	103.8343	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.8339	GEN560339 1-G10-48 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0681	103.8265	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.8262	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.8262	GEN562119 1-G12_007_3 13.800	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0681	103.8255	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.8148	GEN520812 1-ANADRK5	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.8142	GEN520813 1-ANADRK6	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.7953	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.7886	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.7834	GEN520811 1-ANADRK4	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06811	103.7761	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06806	103.7651	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.7619	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.7557	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06939	103.7488	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.744	GEN560331 1-G10-46 13.800	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.7428	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.739	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.7388	GEN562317 1-G12-040 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0683	103.7234	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0683	103.7201	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0681	103.7189	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.7108	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06833	103.7098	FOREST HILL - SQUIRL CREEK 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.7017	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.7017	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.7013	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06828	103.6977	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06857	103.6925	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.6916	GEN562092 1-G12_001_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.682	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.6806	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.6746	GEN560666 1-G10-056 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.673	GEN301380 1-10SAGEWIND 34.500	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06789	103.6716	WESTMOORE - WILROGR4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.6624	GEN562314 1-G12-039 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06843	103.6608	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.651	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.6504	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06829	103.6439	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06829	103.6426	BURGETT4 138.00 - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.637	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.6367	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06829	103.6356	ARCADIA - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.6341	GEN560166 1-G07-48 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0679	103.631	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.6275	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.6257	GEN532997 1-CLR_3	0.6900
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.6246	GEN514905 1-REDBUD3S	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.616	GEN541170 4-LAKERD#4	13.800
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06821	103.6088	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.5975	GEN514899 1-REDBUD1S	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.597	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06781	103.5964	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.5949	GEN560711 1-G10_044_3	0.6900
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.5905	GEN546698 1-QN GEN2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06777	103.5837	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06777	103.5837	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.5745	GEN562327 1-G12-026	13.800
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.568	GEN514942 2-REDBUD4G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06802	103.5641	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06798	103.5605	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.5548	GEN560282 1-G08-19	0.6000
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.5541	GEN560175 1-G07-44	0.5750
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06805	103.5491	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.5466	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.5406	GEN562003 1-G11_027_3	0.6900
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.5302	GEN514910 2-REDBUD GEN	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06783	103.526	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.5249	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.5239	GEN560339 1-G10-48	0.6900
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.516	GEN562118 1-G12_007_2	13.800
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.516	GEN562119 1-G12_007_3	13.800
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.5156	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06788	103.505	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06788	103.5039	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	103.5019	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06798	103.5011	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.4947	GEN301380 1-10SAGEWIND	34.500
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.4836	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.4771	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06788	103.4545	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.4445	GEN562317 1-G12-040	0.6900
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.4339	GEN560331 1-G10-46	13.800
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06918	103.4272	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.427	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.4237	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.4003	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.4003	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.3971	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06787	103.396	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.3817	GEN562092 1-G12_001_3	0.6900
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.3722	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.3718	GEN546702 1-NM GEN N1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.3717	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06834	103.3686	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.3648	GEN560666 1-G10-056	0.6900
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06805	103.3602	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.3423	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06821	103.3394	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.3304	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07315	103.3069	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06798	103.2878	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.2875	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06483	103.2822	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07012	103.2726	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.2652	GEN562327 1-G12-026	13.800
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06783	103.2466	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.2368	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.2341	GEN562049 1-G11_012_3	0.6900
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	103.2332	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05148	103.2177	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.2065	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06761	103.1935	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05666	103.1603	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06885	103.1366	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.1297	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.1296	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06841	103.1029	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.097	GEN562288 1-G12-016-1	18.000
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.0782	GEN546702 1-NM GEN N1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	103.0591	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.0336	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	103.0294	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	103.0224	GEN542956 2-LACYGNE UNIT #2	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	103.0012	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07298	102.9833	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.9824	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.9824	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.9824	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06486	102.9808	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	102.965	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06855	102.9639	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06984	102.9618	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06461	102.9616	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07032	102.9467	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.9258	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06761	102.9255	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	102.911	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06892	102.9108	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05137	102.9065	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05644	102.8881	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.8417	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06483	102.8393	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.8218	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.8217	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06862	102.819	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.796	GEN520997 1-MORLND2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.7889	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06818	102.7679	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.7632	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.7573	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.7519	GEN520998 1-MORLND3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.7519	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05915	102.7498	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.7451	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09279	102.7287	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.7258	GEN527165 1-Mustang Gen #5	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.7245	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.716	GEN560669 1-G10_057 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05915	102.7023	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.6863	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.684	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06464	102.682	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	102.6784	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.6751	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.6751	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.6751	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06865	102.6746	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08595	102.6741	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	102.6638	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06483	102.6622	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08747	102.6606	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.6545	GEN562298 1-G12-024 0.6500	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.6532	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06833	102.6438	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06797	102.6428	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.6366	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.6182	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07008	102.6006	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	102.5762	GEN520947 1-HUGO1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.576	GEN562320 1-G12-041 18.000	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06869	102.5705	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.5691	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.5579	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.5356	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.5292	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.5292	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06461	102.5194	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.5053	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.4897	GEN520997 1-MORLND2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.4575	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05891	102.4539	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.4512	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.4457	GEN520998 1-MORLND3	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.4412	GEN527166 1-MUSTANG 6 18.000	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.4369	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06827	102.4277	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.4205	GEN560329 1-G10-45 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.4195	GEN527165 1-Mustang Gen #5	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.4182	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.4109	GEN560669 1-G10_057 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06909	102.4047	OAKCREEK - WILD MARY 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05891	102.4012	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.3796	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.3749	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.358	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06842	102.3547	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.3488	GEN562298 1-G12-024 0.6500	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.3471	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06461	102.3419	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	102.3419	GEN509406 1-WELSH #3	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	102.3413	GEN509404 1-WELSH #1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.3295	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.3157	GEN562322 1-G12-042 13.800	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.3122	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	102.3119	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08565	102.3079	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.2995	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06949	102.2963	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08716	102.2958	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.2757	GEN562320 1-G12-041 18.000	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.2632	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	102.2591	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	102.2577	GEN520947 1-HUGO1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.2521	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07087	102.2489	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.2485	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.2225	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.2225	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0923	102.208	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.1998	GEN562035 1-G11_016 3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06968	102.1997	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06208	102.1835	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.1357	GEN527166 1-MUSTANG_6 18.000	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07087	102.1232	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06909	102.1166	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.1152	GEN560329 1-G10-45 0.6900	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	102.113	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06805	102.1092	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06886	102.0782	OAKCREEK - WILD MARY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06208	102.0697	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.0536	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.0536	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.0402	GEN562308 1-G12-037 18.000	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	102.0223	GEN509406 1-WELSH #3	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	102.0217	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08747	102.0153	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	102.0113	GEN562322 1-G12-042 13.800	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.0067	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07032	102.0057	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	102.0054	GEN526334 1-JONES_4 116.500	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	102.0003	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.9985	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.9943	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.9941	GEN562042 1-G11_014 3 0.6900	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08747	101.9932	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.9902	GEN562311 1-G12-038 18.000	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06927	101.9719	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.9436	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06949	101.9344	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	101.9277	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06949	101.9236	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06909	101.904	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.9003	GEN599891 1-OKLAUN	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06186	101.895	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07064	101.8907	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06944	101.8886	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06949	101.8317	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08747	101.8274	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	101.8244	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09148	101.7986	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	101.7921	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06886	101.79	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06186	101.7798	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07064	101.7665	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.766	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.7492	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.7357	GEN562308 1-G12-037 18.000	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.7025	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.7011	GEN526334 1-JONES_4 116.500	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.6938	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.6906	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.6859	GEN562311 1-G12-038 18.000	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0858	101.6814	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.6641	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07008	101.6627	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08716	101.6509	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06909	101.6491	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08716	101.6289	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.6248	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06927	101.6098	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06927	101.5991	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.5958	GEN599891 1-OKLAUN	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06886	101.5775	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.528	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06817	101.5267	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	101.5132	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.5073	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06927	101.5065	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	101.5041	GEN520947 1-HUGO1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07393	101.4943	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08506	101.4791	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.479	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06977	101.4653	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08716	101.4631	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.4624	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	101.4554	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09117	101.4269	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07393	101.3776	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.3621	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	101.3562	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.3302	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06886	101.3225	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	101.3182	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08549	101.3174	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	101.2867	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	101.2758	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.2423	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.2422	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.2295	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.2271	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.2066	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06794	101.2007	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	101.1775	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06887	101.14	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06955	101.1377	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07367	101.1373	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	101.1368	GEN531447 1-HOLCOMB GENERATOR	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	101.1355	GEN520947 1-HUGO1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07661	101.1163	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06929	101.1107	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08475	101.1056	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	101.0985	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	101.085	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	101.0233	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07367	101.0218	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.9724	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.9715	GEN562017 1-G11_022_3 0.6900	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08164	100.9642	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	100.9544	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.9475	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	100.9436	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.9411	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.9398	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.066	100.9327	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.9274	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.9221	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08622	100.9079	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	100.8865	GEN515040 1-SEMINOLE 1G	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	100.8798	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.8789	GEN659118 1-LARAMIE RIVER UNIT1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06557	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06557	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07393	100.8733	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06887	100.8541	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06887	100.8541	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08489	100.8497	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.836	GEN531447 1-HOLCOMB GENERATOR	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06864	100.8151	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06923	100.8141	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	100.8076	GEN35831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07641	100.7964	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.7954	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	100.7938	GEN509406 1-WELSH #3	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	100.7933	GEN509405 1-WELSH #2	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	100.7931	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08622	100.7906	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06907	100.7845	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06927	100.7515	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	18SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07986	100.7426	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	100.7199	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.6973	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06813	100.6951	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06923	100.673	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.6695	GEN562017 1-G11_022_3 0.6900	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06832	100.6493	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	100.6464	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06705	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06705	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06934	100.6402	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06578	100.6379	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	100.6336	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.6207	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	100.613	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06914	100.608	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08134	100.6014	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.5784	GEN659118 1-LARAMIE RIVER UNIT1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06974	100.5748	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06535	100.5608	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06535	100.5608	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.5576	GEN562023 1-G11_020_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.5576	GEN562026 1-G11_019_3 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.5568	GEN515606 1-CANADN11 34.500	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.5568	GEN515607 1-CANADN12 34.500	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	100.554	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06914	100.5417	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06864	100.5292	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06864	100.5292	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07367	100.5224	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.5211	GEN515040 1-SEMINOLE 1G	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0859	100.5174	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06939	100.5128	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.4957	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06901	100.4916	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08459	100.488	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07025	100.4693	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08407	100.4571	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06914	100.4533	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07958	100.4523	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06916	100.4497	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07014	100.4494	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06905	100.4277	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.4242	GEN509406 1-WELSH #3	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.4238	GEN509405 1-WELSH #2	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.4236	GEN509404 1-WELSH #1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06927	100.4134	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0692	100.4024	PITTSBURG - VALLIANT 345KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	100.4008	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0859	100.3983	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06792	100.3868	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06947	100.3798	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.3661	GEN562099 1-G11_054 0.6900	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.3661	GEN562100 1-G11_054 0.6900	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06901	100.3504	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0684	100.3465	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	100.3332	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0681	100.3267	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.3237	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06888	100.3234	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06683	100.3176	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06683	100.3176	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	100.3171	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08428	100.3108	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06911	100.3061	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06892	100.2861	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08278	100.2767	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06919	100.2717		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08948	100.2712		CANEYRV7 345.00 - NEOSHO 345KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.2589		GEN515225 1-MUSKOGEE 5G
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.2565		GEN562023 1-G11_020_3 0.6900
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.2565		GEN562026 1-G11_019_3 0.6900
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06952	100.2474		MCCLAIN - PLEASANT VALLEY 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.2469		GEN515606 1-CANADN11 34.500
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.2469		GEN515607 1-CANADN12 34.500
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.2462		GEN515226 1-MUSKOGEE 6G
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.2253		GEN515223 1-MUSKOGEE 4G
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06891	100.2109		AXTELL - POST ROCK 345KV CKT 1
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.1917		GEN640009 1-COOPER NUCLEAR STATION
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06908	100.1894		LONEOAK - NORTHWEST 138KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06917	100.1846		MEMORIAL - SKYLINE 138KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06907	100.1769		NORTHWEST - PANTHER 138KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06849	100.1606		HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06935	100.1565		OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06891	100.1516		MINGO - RED WILLOW 345KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06901	100.1479		HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07002	100.1394		JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06593	100.1338		BENTON - WICHITA 345KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06878	100.133		GEN334440 1-SABINE UNIT 4
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06892	100.1315		POCASSETT - TUTTLE 138KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08434	100.1287		ARCADIA - KAMO MEMORIAL 138KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08948	100.112		CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06907	100.1085		PANTHER - SILVER LAKE 138KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06991	100.0919		GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06939	100.0916		KETCH TAP - NORTHWEST 138KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06914	100.0899		SUNSHINE CANYON - TUTTLE 138KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06905	100.0898		BLANCHARD - OUSW4 138KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08377	100.0871		GEN501801 1-DOLET HILLS UNIT1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06893	100.0865		MORISNT4 138.00 - STILLWATER 138KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06897	100.0794		PITTSBURG - VALLIANT 345KV CKT 1
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.0569		GEN562099 1-G11_054 0.6900
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	100.0569		GEN562100 1-G11_054 0.6900
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06924	100.0554		QUAIL CREEK - SKYLINE 138KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08268	100		REDBUD - RIVERSIDE STATION 345KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06866	100		G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06816	100		REDBUD - RIVERSIDE STATION 345KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06019	100		MUSKOGEE - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09148	99.9		MCCLAIN - SARA 138KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08913	99.9		CANEYRV7 345.00 - NEOSHO 345KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08487	99.9		OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08398	99.9		HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08249	99.9		CANADIAN RIVER - MUSKOGEE 345KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06943	99.9		KETCH - KETCH TAP 138KV CKT 1
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06909	99.9		DIVISION AVE - LAKESIDE 138KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06897	99.9		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06886	99.9		LONEOAK - NORTHWEST 138KV CKT 1
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06884	99.9		NORTHWEST - PANTHER 138KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0438	116.1887		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04374	116.0806		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0438	114.235		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04374	114.1307		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	23SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04762	109.2972		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	23SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04758	109.2236		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	23SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04762	107.1535		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	23SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04758	107.0817		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	18SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0444	102.1794		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	18SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04436	102.1128		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	18SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0444	100.3669		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	18SP	G12_032	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04436	100.3022		CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04328	114.774		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04322	114.6672		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04328	112.8585		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04322	112.7554		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	23SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04703	107.9159		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	23SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04699	107.8432		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	23SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04703	105.813		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	23SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04699	105.7421		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	18SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04385	100.8885		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	18SP	G12_032	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04381	100.8227		CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03952	133.8372		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03944	133.7006		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03952	131.2878		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03944	131.1583		NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03266	104.4226		CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03259	104.2838		CIMARRON - DRAPER LAKE 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB	TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)	
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03031	103.4921	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03025	103.3875	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03022	103.2373	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03016	103.1329	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03266	102.9264	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03259	102.7934	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03031	101.9767	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03025	101.8762	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03022	101.7268	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03016	101.6266	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0476	101.0535	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03007	100.8755	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04747	100.8554	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03001	100.7724	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03007	100	CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03007	100	MORGAN - XEROX 138KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03001	99.9	CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03001	99.9	MORGAN - XEROX 138KV CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03827	122.5131	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0382	122.3884	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03827	120.1546	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_032	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0382	120.0362	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08NR	0	13G	G12_040	FROM->TO	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07594	102.6941	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	08NR	0	13G	G12_040	FROM->TO	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07594	102.3479	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	08NR	0	13G	G12_040	FROM->TO	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07594	100	DOMES - PAWHUSKA TAP 138KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06981	119.1013	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09554	119.0787	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06843	118.7289	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09379	118.6065	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06596	116.7212	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06457	116.356	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07146	115.5803	CLEVELAND - SOONER 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06985	115.0791	CLEVELAND - SOONER 345KV CKT 1
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07073	113.3982	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06938	113.028	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06867	112.7314	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06737	112.3869	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08399	111.4768	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06486	111.4516	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06631	111.4366	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0854	111.2328	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06484	111.2097	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06358	111.1222	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06494	111.0839	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08198	111.0816	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06586	110.9762	CIMARRON - SARA 138KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06356	110.8805	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08338	110.8301	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07086	110.7765	CLEVELAND - TULSA NORTH 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06457	110.6405	CIMARRON - SARA 138KV CKT 1
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09481	110.5948	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06631	110.3874	CIMARRON - MINCO 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06898	110.1945	CLEVELAND - TULSA NORTH 345KV CKT 1
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09312	110.1445	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06494	110.0341	CIMARRON - MINCO 345KV CKT 1
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08387	110.0185	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06753	109.9409	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06586	109.6419	MCCLAIN - SARA 138KV CKT 1
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08189	109.6255	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06503	109.6124	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06617	109.5793	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07227	109.4631	CLEVELAND - SOONER 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06457	109.3086	MCCLAIN - SARA 138KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06375	109.2829	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06503	109.1637	CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06503	109.1482	MORGAN - XEROX 138KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06503	109.0298	MORGAN - MUSTANG 138KV CKT 1
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08387	109.0294	CIMARRON - MINCO 345KV CKT 1
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07071	108.9735	CLEVELAND - SOONER 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06375	108.8345	CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06375	108.8191	MORGAN - XEROX 138KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	108.8123	GEN509416 1-TURK GENERATION
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	108.7446	GEN509403 1-PIRKEY GENERATION
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06375	108.7008	MORGAN - MUSTANG 138KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	108.6655	GEN520947 1-HUGO1
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08189	108.6383	CIMARRON - MINCO 345KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06461	108.6016	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	108.4873	GEN509416 1-TURK GENERATION

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	108.4189	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	108.3438	GEN520947 1-HUGO1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06334	108.2728	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06558	108.251	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06558	108.1324	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	108.0467	GEN509406 1-WELSH #3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	108.0465	GEN509405 1-WELSH #2	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06783	107.9912	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	107.8901	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0643	107.8856	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0643	107.7667	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	107.7595	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	107.7242	GEN509406 1-WELSH #3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	107.724	GEN509405 1-WELSH #2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06457	107.7031	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06655	107.6504	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	107.5797	GEN509404 1-WELSH #1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	107.566	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08983	107.5329	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	107.5066	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	107.4276	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06755	107.4061	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06331	107.3768	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06755	107.2856	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06972	107.2747	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	107.2585	GEN509404 1-WELSH #1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	107.2332	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	107.1942	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	107.161	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	107.1499	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	107.0828	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06623	107.0413	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06844	106.9345	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06623	106.9254	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	106.8993	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08718	106.8863	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	106.872	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	106.8277	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	106.8167	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	106.7706	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06755	106.7668	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06434	106.7251	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06119	106.7192	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06461	106.634	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06453	106.5845	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	106.4815	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0636	106.481	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05999	106.4233	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06453	106.4211	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06623	106.4118	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06307	106.3998	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06476	106.3861	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06408	106.3251	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06335	106.3102	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06669	106.308	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06461	106.2998	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06559	106.2755	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06385	106.2652	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06327	106.2605	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06453	106.2569	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	106.1614	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06234	106.157	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06429	106.1402	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	106.1003	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06327	106.0981	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06603	106.0896	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	106.0873	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06471	106.0838	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06671	106.0551	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06346	106.0529	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06453	106.0455	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06441	106.0089	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06421	105.9977	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06433	105.9957	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0628	105.9954	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06335	105.9765	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.9454	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0643	105.945	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06537	105.9412	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06455	105.9321	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06326	105.924	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0644	105.9123	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06247	105.8764	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06441	105.8648	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06523	105.8596	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06601	105.8358	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06422	105.8101	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06303	105.8078	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05476	105.7837	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.7817	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06419	105.7715	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06419	105.7715	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.7684	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06343	105.7578	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.7473	GEN303007 1-1BC2 U2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.7405	GEN303006 1-1BC2 U1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.7402	GEN303008 1-1BC2 U3	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06478	105.7383	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06327	105.7227	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06439	105.7065	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06484	105.6961	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06534	105.6875	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06315	105.6869	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06296	105.6763	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06306	105.6665	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06448	105.6536	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06431	105.6416	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.6386	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06163	105.629	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06329	105.6078	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06425	105.6023	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.6014	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06484	105.6001	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.598	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06492	105.5968	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06385	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06385	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06471	105.5955	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06314	105.5822	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06439	105.5651	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.11358	105.5639	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08444	105.5636	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06436	105.5628	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06567	105.5614	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06507	105.5608	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06315	105.5445	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06581	105.5385	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06478	105.5382	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06426	105.5374	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0644	105.5291	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0643	105.5291	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05376	105.5248	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06392	105.5231	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.063	105.5097	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06476	105.5071	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06434	105.496	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06421	105.4952	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0643	105.4757	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06293	105.4506	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06293	105.45	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0613	105.4491	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06433	105.4364	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.4337	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.4284	GEN303007 1-1BC2 U2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.4221	GEN336831 1-BAXTER WILSON SES	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.4217	GEN303006 1-1BC2 U1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.4214	GEN303008 1-1BC2 U3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06392	105.4172	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06349	105.4015	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06567	105.3991	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06501	105.3876	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06313	105.3829	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06356	105.3794	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06346	105.3774	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.3747	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06469	105.3607	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06478	105.3537	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.3522	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.346	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.3432	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.3378	GEN337041 1-GERALD ANDRUS	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.3361	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.3297	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06193	105.3228	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06321	105.3227	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.322	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08432	105.3216	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06305	105.3179	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06392	105.3135	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06418	105.3068	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.2934	GEN562052 1-G11_040_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06392	105.2883	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.2845	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06356	105.2835	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.2796	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06299	105.2791	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06259	105.2754	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06259	105.2754	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.2725	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06422	105.2694	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06365	105.2635	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.2632	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06344	105.2616	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06431	105.2546	LONEOAK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06313	105.2417	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0631	105.2389	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06432	105.227	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06378	105.2261	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0635	105.2214	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06301	105.2169	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06583	105.2129	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06303	105.207	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0644	105.205	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06117	105.2037	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06478	105.2029	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06313	105.1996	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06476	105.1981	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06583	105.1969	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08256	105.196	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.11101	105.1945	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0642	105.1928	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06295	105.1769	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06447	105.1721	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06426	105.1716	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06308	105.1714	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.163	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.163	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06303	105.1528	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06583	105.1511	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06378	105.1497	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.1496	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06012	105.1492	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06442	105.1413	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06427	105.1288	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0643	105.1258	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06306	105.1239	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06583	105.1221	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06417	105.1221	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06436	105.1204	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06436	105.1171	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.1165	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.1045	GEN336831 1-BAXTER WILSON SES	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	105.0995	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06266	105.0942	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06439	105.0889	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06449	105.0866	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06224	105.0862	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06423	105.0788	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06481	105.0676	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06411	105.0622	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0644	105.0571	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0622	105.0567	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06373	105.0524	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06424	105.0502	HAMMETT TAP - HAMMETT2 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06523	105.0481	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.046	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06342	105.0456	MCLLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06523	105.0446	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06431	105.0378	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.0366	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06381	105.0316	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.0309	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06478	105.0293	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.0276	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.0221	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0635	105.02	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.0198	GEN337041 1-GERALD ANDRUS	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	105.0147	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06476	105.0004	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08633	104.9918	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06413	104.9916	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06266	104.99	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06067	104.9881	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06292	104.9841	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06496	104.9819	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	104.9814	GEN562052 1-G11_040_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06429	104.9759	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06449	104.973	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06901	104.9698	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06424	104.9678	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0642	104.9663	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06426	104.9659	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06266	104.9657	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	104.9561	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08245	104.9543	CIMARRON (CIMARRON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06428	104.9535	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06438	104.9481	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06422	104.948	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	104.9468	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06296	104.9437	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06438	104.9436	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07169	104.9385	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06305	104.9348	LONEOK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06432	104.9327	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06422	104.9245	MOORE - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0642	104.9216	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06424	104.9164	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05996	104.9131	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06305	104.9047	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06436	104.9035	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06433	104.9018	EL RENO SW - MUSTANG 69KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0642	104.9002	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06414	104.9	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06414	104.8992	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06418	104.8958	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06438	104.8938	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06429	104.8909	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0635	104.8864	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06349	104.8829	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0626	104.8815	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06453	104.8709	BRISTOW - SILVER CITY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06424	104.8678	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06294	104.8677	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06889	104.8668	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	104.849	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	104.849	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.063	104.8489	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06438	104.846	OIL CENTER - STRATFORD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0632	104.8443	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	104.8361	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06316	104.815	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06309	104.8071	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06309	104.8038	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06301	104.8038	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06291	104.7997	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	104.7862	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06323	104.7659	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06313	104.7623	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06297	104.7538	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06354	104.7535	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06285	104.7436	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06298	104.7282	HAMMETT TAP - HAMMETT2 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06394	104.715	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0635	104.7129	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06394	104.7125	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06255	104.711	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06303	104.7046	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06889	104.6912	FAIRFAX TAP - SHIDLER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06889	104.6912	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06349	104.6858	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06288	104.6787	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06298	104.6464	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.063	104.6442	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06294	104.6435	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06367	104.6417	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06302	104.641	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06323	104.638	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06301	104.6311	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06296	104.6266	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06312	104.6244	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06311	104.6193	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08441	104.6113	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06306	104.6088	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06386	104.608	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06298	104.6034	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06386	104.6008	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06294	104.599	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06309	104.5903	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06307	104.5802	EL RENO SW - MUSTANG 69KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06288	104.5797	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06288	104.5789	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06294	104.5762	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06292	104.5735	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06312	104.5704	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06386	104.5663	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06302	104.5602	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06386	104.5534	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06298	104.5466	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.4152	BASE CASE	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06986	104.3658	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.336	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.2021	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.1262	GEN520812 1-ANADRK5	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.1256	GEN520813 1-ANADRK6	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	104.1035	BASE CASE	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.0947	GEN520811 1-ANADRK4	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.0903	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06437	104.0854	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.0844	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.0143	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	104.0136	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.0121	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	104.0121	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9739	GEN562314 1-G12-039 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0646	103.9661	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0646	103.9649	BURGETT4 138.00 - RNDBARN4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9613	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9612	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0646	103.9578	ARCADIA - RNDBARN4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06419	103.9526	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9481	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9476	GEN562084 1-G11 050 3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9459	GEN560166 1-G07-48 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9383	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9357	GEN514905 1-REDBUD3S	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9348	GEN532997 1-CLR 3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9261	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9086	GEN514899 1-REDBUD1S	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06413	103.9068	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.906	GEN560711 1-G10 044 3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0641	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0641	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.9005	GEN546698 1-QN GEN2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06431	103.8837	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.8804	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.8791	GEN514942 2-REDBUD4G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06427	103.8763	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	103.8675	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.8656	GEN560282 1-G08-19 0.6000	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.8649	GEN560175 1-G07-44 0.5750	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06454	103.8628	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.8517	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.8412	GEN514910 2-REDBUD GEN	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.8357	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06436	103.8343	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.8339	GEN560339 1-G10-48 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06417	103.8265	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.8262	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.8262	GEN562119 1-G12_007_3 13.800	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06417	103.8255	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.8148	GEN520812 1-ANADRK5	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.8142	GEN520813 1-ANADRK6	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.7953	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.7886	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.7834	GEN520811 1-ANADRK4	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06418	103.7761	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06311	103.7651	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.7619	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.7557	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0655	103.7488	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.744	GEN560331 1-G10-46 13.800	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.7428	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.739	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.7388	GEN562317 1-G12-040 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06439	103.7234	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06439	103.7201	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06417	103.7189	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.7108	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06347	103.7098	FOREST HILL - SQUIRL CREEK 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.7017	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.7017	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.7013	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06454	103.6977	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06476	103.6925	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.6916	GEN562092 1-G12_001_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.682	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.6806	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.6746	GEN560666 1-G10-056 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.673	GEN301380 1-10SAGEWIND 34.500	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06296	103.6716	WESTMOORE - WILROGR4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.6624	GEN562314 1-G12-039 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06457	103.6608	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.651	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.6504	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06333	103.6439	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06333	103.6426	BURGETT4 138.00 - RNDARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.637	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.6367	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06333	103.6356	ARCADIA - RNDARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.6341	GEN560166 1-G07-48 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06293	103.631	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.6275	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.6257	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.6246	GEN514905 1-REDBUD3S	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.616	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06428	103.6088	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.5975	GEN514899 1-REDBUD1S	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.597	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06288	103.5964	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.5949	GEN560711 1-G10_044_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.5905	GEN546698 1-QN GEN2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06285	103.5837	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06285	103.5837	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.5745	GEN562327 1-G12-026 13.800	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.568	GEN514942 2-REDBUD4G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06305	103.5641	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06301	103.5605	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.5548	GEN560282 1-G08-19 0.6000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.5541	GEN560175 1-G07-44 0.5750	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06328	103.5491	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.5466	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.5406	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.5302	GEN514910 2-REDBUD GEN	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06397	103.526	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.5249	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.5239	GEN560339 1-G10-48 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.516	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.516	GEN562119 1-G12_007_3 13.800	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.5156	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06291	103.505	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06291	103.5039	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	103.5019	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06309	103.5011	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.4947	GEN301380 1-1OSAGEWIND 34.500	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.4836	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.4771	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06292	103.4545	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.4445	GEN562317 1-G12-040 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.4339	GEN560331 1-G10-46 13.800	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06427	103.4272	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.427	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.4237	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06314	103.4003	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.4003	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06314	103.3971	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06291	103.396	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.3817	GEN562092 1-G12_001_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.3722	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.3718	GEN546702 1-NM GEN N1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.3717	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0635	103.3686	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.3648	GEN560666 1-G10-056 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06328	103.3602	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.3423	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06331	103.3394	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.3304	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06934	103.3069	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06302	103.2878	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.2875	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06155	103.2822	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06581	103.2726	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.2652	GEN562327 1-G12-026 13.800	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06397	103.2466	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.2368	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.2341	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	103.2332	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06193	103.2177	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.2065	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06273	103.1935	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05259	103.1603	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06484	103.1366	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.1297	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.1296	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0645	103.1029	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.097	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.0782	GEN546702 1-NM GEN N1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	103.0591	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.0336	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	103.0294	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	103.0224	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	103.0012	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06823	102.9833	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.9824	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.9824	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.9824	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06096	102.9808	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06424	102.965	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06466	102.9639	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06446	102.9618	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06028	102.9616	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06635	102.9467	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.9258	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06273	102.9255	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	102.911	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06506	102.9108	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06067	102.9065	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05153	102.8881	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.8417	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06155	102.8393	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.8218	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.8217	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06355	102.819	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.796	GEN520997 1-MORLND2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.7889	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06324	102.7679	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.7632	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.7573	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.7519	GEN520998 1-MORLND3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.7519	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05854	102.7498	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.7451	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08704	102.7287	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.7258	GEN527165 1-Mustang Gen #5	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.7245	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.716	GEN560669 1-G10_057 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05854	102.7023	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.6863	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.684	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05976	102.682	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	102.6784	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.6751	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.6751	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.6751	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06476	102.6746	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08234	102.6741	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	102.6638	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06155	102.6622	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08406	102.6606	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.6545	GEN562298 1-G12-024 0.6500	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.6532	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0634	102.6438	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06298	102.6428	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.6366	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.6182	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06504	102.6006	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	102.5762	GEN520947 1-HUGO1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.576	GEN562320 1-G12-041 18.000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06377	102.5705	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.5691	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.5579	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.5356	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.5292	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.5292	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06028	102.5194	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.5053	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.4897	GEN520997 1-MORLND2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.4575	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0574	102.4539	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.4512	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.4457	GEN520998 1-MORLND3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.4412	GEN527166 1-MUSTANG_6 18.000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.4369	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06439	102.4277	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.4205	GEN560329 1-G10-45 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.4195	GEN527165 1-Mustang Gen #5	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.4182	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.4109	GEN560669 1-G10_057 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06532	102.4047	OAKCREEK - WILD MARY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0574	102.4012	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.3796	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.3749	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.358	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06351	102.3547	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.3488	GEN562298 1-G12-024 0.6500	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.3471	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06028	102.3419	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	102.3419	GEN509406 1-WELSH #3	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	102.3413	GEN509404 1-WELSH #1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.3295	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.3157	GEN562322 1-G12-042 13.800	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.3122	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	102.3119	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08048	102.3079	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.2995	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06574	102.2963	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08219	102.2958	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.2757	GEN562320 1-G12-041 18.000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.2632	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	102.2591	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	102.2577	GEN520947 1-HUGO1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.2521	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06658	102.2489	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.2485	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.2225	GEN659103 1-ANTELOPE VALLEY UNIT1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.2225	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08466	102.208	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.1998	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06565	102.1997	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0582	102.1835	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.1357	GEN527166 1-MUSTANG 6 18.000	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06658	102.1232	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06532	102.1166	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.1152	GEN560329 1-G10-45 0.6900	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	102.113	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06314	102.1092	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06404	102.0782	OAKCREEK - WILD MARY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0582	102.0697	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.0536	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.0536	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.0402	GEN562308 1-G12-037 18.000	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	102.0223	GEN509406 1-WELSH #3	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	102.0217	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08406	102.0153	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	102.0113	GEN562322 1-G12-042 13.800	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.0067	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06635	102.0057	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	102.0054	GEN526334 1-JONES_4 116.500	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	102.0003	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.9985	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.9943	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.9941	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08406	101.9932	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.9902	GEN562311 1-G12-038 18.000	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0645	101.9719	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.9436	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06574	101.9344	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	101.9277	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06574	101.9236	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06532	101.904	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.9003	GEN599891 1-OKLAUN	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05704	101.895	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06532	101.8907	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06434	101.8886	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06574	101.8317	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08406	101.8274	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	101.8244	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08816	101.7986	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	101.7921	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06404	101.79	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05704	101.7798	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06532	101.7665	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.766	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.7492	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.7357	GEN562308 1-G12-037 18.000	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.7025	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.7011	GEN526334 1-JONES_4 116.500	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.6938	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.6906	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.6859	GEN562311 1-G12-038 18.000	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08222	101.6814	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.6641	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06504	101.6627	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08219	101.6509	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06532	101.6491	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08219	101.6289	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.6248	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0645	101.6098	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0645	101.5991	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.5958	GEN599891 1-OKLAUN	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06404	101.5775	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.528	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06456	101.5267	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	101.5132	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.5073	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0645	101.5065	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	101.5041	GEN520947 1-HUGO1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06848	101.4943	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08179	101.4791	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.479	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06611	101.4653	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08219	101.4631	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.4624	GEN562289 1-G12-016-2 18.000	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	101.4554	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08626	101.4269	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06848	101.3776	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.3621	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	101.3562	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.3302	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06404	101.3225	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	101.3182	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08036	101.3174	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	101.2867	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	101.2758	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.2423	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.2422	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.2295	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.2271	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.2066	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06331	101.2007	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	101.1775	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0651	101.14	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06486	101.1377	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06718	101.1373	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	101.1368	GEN531447 1-HOLCOMB GENERATOR	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	101.1355	GEN520947 1-HUGO1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07262	101.1163	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06558	101.1107	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07988	101.1056	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	101.0985	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	101.085	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	101.0233	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06718	101.0218	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.9724	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.9715	GEN562017 1-G11_022_3 0.6900	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07842	100.9642	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	100.9544	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	100.9475	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	100.9436	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.9411	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.9398	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06238	100.9327	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.9274	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.9221	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08228	100.9079	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	100.8865	GEN515040 1-SEMINOLE 1G	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	100.8798	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.8789	GEN659118 1-LARAMIE RIVER UNIT1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06178	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06178	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06848	100.8733	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0651	100.8541	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0651	100.8541	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08154	100.8497	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.836	GEN531447 1-HOLCOMB GENERATOR	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06383	100.8151	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0654	100.8141	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	100.8076	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07142	100.7964	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.7954	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	100.7938	GEN509406 1-WELSH #3	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	100.7933	GEN509405 1-WELSH #2	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	100.7931	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08228	100.7906	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06434	100.7845	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06564	100.7515	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	18SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07627	100.7426	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	100.7199	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.6973	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06526	100.6951	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0654	100.673	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.6695	GEN562017 1-G11_022_3 0.6900	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06459	100.6493	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	100.6464	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06311	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06311	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06578	100.6402	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0612	100.6379	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	100.6336	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.6207	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	100.613	GEN515223 1-MUSKOGEE 4G	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0655	100.608	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07656	100.6014	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.5784	GEN659118 1-LARAMIE RIVER UNIT1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06612	100.5748	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06056	100.5608	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06056	100.5608	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.5576	GEN562023 1-G11_020_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.5576	GEN562026 1-G11_019_3 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.5568	GEN515606 1-CANADN11 34.500	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.5568	GEN515607 1-CANADN12 34.500	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	100.554	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06556	100.5417	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06383	100.5292	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06383	100.5292	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06718	100.5224	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	100.5211	GEN515040 1-SEMINOLE 1G	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08041	100.5174	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06578	100.5128	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.4957	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06416	100.4916	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07968	100.488	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06662	100.4693	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08084	100.4571	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0655	100.4533	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07489	100.4523	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06763	100.4497	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06652	100.4494	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0644	100.4277	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	100.4242	GEN509406 1-WELSH #3	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	100.4238	GEN509405 1-WELSH #2	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	100.4236	GEN509404 1-WELSH #1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06564	100.4134	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06514	100.4024	PITTSBURG - VALLIANT 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06395	100.4008	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08041	100.3983	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06407	100.3868	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06559	100.3798	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.3661	GEN562099 1-G11_054 0.6900	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.3661	GEN562100 1-G11_054 0.6900	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06416	100.3504	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06485	100.3465	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	100.3332	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06336	100.3267	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.3237	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06531	100.3234	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06186	100.3176	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06186	100.3176	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	100.3171	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08107	100.3108	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06451	100.3061	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06427	100.2861	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07953	100.2767	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06538	100.2717	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08427	100.2712	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	100.2589	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.2565	GEN562023 1-G11_020_3 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.2565	GEN562026 1-G11_019_3 0.6900	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06486	100.2474	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.2469	GEN515606 1-CANADN11 34.500	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.2469	GEN515607 1-CANADN12 34.500	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	100.2462	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	100.2253	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06433	100.2109	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	100.1917	GEN640009 1-COOPER NUCLEAR STATION	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06537	100.1894	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06453	100.1846	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06537	100.1769	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06516	100.1606	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06573	100.1565	OKLAUNION - TUCCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06536	100.1516	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06543	100.1479	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06536	100.1394	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06392	100.1338	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06518	100.133	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06427	100.1315	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08107	100.1287	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08427	100.112	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06537	100.1085	PANTHER - SILVER LAKE 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06524	100.0919	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06527	100.0916	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0655	100.0899	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0644	100.0898	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.079	100.0871	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06634	100.0865	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06388	100.0794	PITTSBURG - VALLIANT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.0569	GEN562099 1-G11_054 0.6900	
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06289	100.0569	GEN562100 1-G11_054 0.6900	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06435	100.0554	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07951	100	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06408	100	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0635	100	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05639	100	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08816	99.9	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08234	99.9	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08162	99.9	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07923	99.9	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07777	99.9	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06619	99.9	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06539	99.9	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06415	99.9	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06414	99.9	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06413	99.9	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03949	116.1887	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03911	116.0806	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03949	114.235	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03911	114.1307	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04284	109.2972	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04262	109.2236	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04284	107.1535	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04262	107.0817	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04	102.1794	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03978	102.1128	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04	100.3669	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03978	100.3022	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03902	114.774	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03864	114.6672	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03902	112.8585	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03864	112.7554	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04231	107.9159	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04209	107.8432	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04231	105.813	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04209	105.7421	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03951	100.8885	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_040	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03929	100.8227	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03152	133.8372	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03107	133.7006	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03152	131.2878	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03107	131.1583	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04024	101.0535	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03954	100.8554	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03052	122.5131	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03009	122.3884	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03052	120.1546	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_040	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03009	120.0362	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07623	119.1013	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10643	119.0787	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07596	118.7289	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10606	118.6065	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07228	116.7212	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07201	116.356	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08727	115.5803	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08685	115.0791	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07673	113.3982	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07647	113.028	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07406	112.7314	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07381	112.3869	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08894	111.4768	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07171	111.4516	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07379	111.4366	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09045	111.2328	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07167	111.2097	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07146	111.1222	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07352	111.0839	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0886	111.0816	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07234	110.9762	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07142	110.8805	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09011	110.8301	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08094	110.7765	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07209	110.6405	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10492	110.5948	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07379	110.3874	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08041	110.1945	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10455	110.1445	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07352	110.0341	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0897	110.0185	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07345	109.9409	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07234	109.6419	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08936	109.6255	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07154	109.6124	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07319	109.5793	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08742	109.4631	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07209	109.3086	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07129	109.2829	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07154	109.1637	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07154	109.1482	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07154	109.0298	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0897	109.0294	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08701	108.9735	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07129	108.8345	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07129	108.8191	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	108.8123	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	108.7446	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07129	108.7008	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	108.6655	GEN520947 1-HUGO1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08936	108.6383	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07142	108.6016	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	108.4873	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	108.4189	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	108.3438	GEN520947 1-HUGO1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07117	108.2728	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07226	108.251	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07226	108.1324	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	108.0467	GEN509406 1-WELSH #3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	108.0465	GEN509405 1-WELSH #2	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07403	107.9912	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	107.8901	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.072	107.8856	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.072	107.7667	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	107.7595	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	107.7242	GEN509406 1-WELSH #3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	107.724	GEN509405 1-WELSH #2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07134	107.7031	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07378	107.6504	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	107.5797	GEN509404 1-WELSH #1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	107.566	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10322	107.5329	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	107.5066	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	107.4276	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0749	107.4061	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0711	107.3768	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0749	107.2856	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07479	107.2747	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	107.2585	GEN509404 1-WELSH #1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	107.2332	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	107.1942	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	107.161	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	107.1499	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	107.0828	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07462	107.0413	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07454	106.9345	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07462	106.9254	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	106.8993	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10254	106.8863	CLEVELAND - SOONER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	106.872	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	106.8277	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	106.8167	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	106.7706	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0749	106.7668	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07087	106.7251	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06748	106.7192	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07093	106.634	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07086	106.5845	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	106.4815	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07002	106.481	ARCADIA - KAMO MEMORIAL 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06724	106.4233	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07086	106.4211	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07462	106.4118	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07062	106.3998	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07109	106.3861	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07018	106.3251	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07069	106.3102	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07099	106.308	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07093	106.2998	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07193	106.2755	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07025	106.2652	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07062	106.2605	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0708	106.2569	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	106.1614	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06978	106.157	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07058	106.1402	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	106.1003	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07062	106.0981	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0725	106.0896	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	106.0873	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07107	106.0838	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07323	106.0551	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07083	106.0529	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07086	106.0455	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07079	106.0089	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07054	105.9977	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0706	105.9957	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06993	105.9954	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07069	105.9765	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06819	105.9454	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07168	105.945	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07073	105.9412	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	105.9321	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07055	105.924	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07068	105.9123	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06998	105.8764	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07079	105.8648	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07198	105.8596	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07245	105.8358	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06912	105.8101	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07033	105.8078	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06085	105.7837	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.7817	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07051	105.7715	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07051	105.7715	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.7684	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07082	105.7578	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.7473	GEN303007 1-1BC2 U2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.7405	GEN303006 1-1BC2 U1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.7402	GEN303008 1-1BC2 U3	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07225	105.7383	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07062	105.7227	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07081	105.7065	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07116	105.6961	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07293	105.6875	NORTHEAST STATION - ONETA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07055	105.6869	CIMARRON - HAYMAKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07029	105.6763	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07036	105.6665	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07071	105.6536	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07073	105.6416	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.6386	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06794	105.629	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07088	105.6078	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07054	105.6023	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.6014	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07116	105.6001	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.598	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07115	105.5968	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07013	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07013	105.5968	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07096	105.5955	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07044	105.5822	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07081	105.5651	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12251	105.5639	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08985	105.5636	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07069	105.5628	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07073	105.5614	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0711	105.5608	KETCH - KETCH TAP 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07055	105.5445	DIVISION AVE - HAYMAKER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07252	105.5385	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07115	105.5382	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07102	105.5374	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0707	105.5291	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07068	105.5291	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06065	105.5248	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07173	105.5231	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06888	105.5097	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07221	105.5071	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07067	105.496	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07053	105.4952	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0707	105.4757	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07027	105.4506	ELDORADO EHV 500/345KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07027	105.45	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06755	105.4491	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07068	105.4364	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.4337	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.4284	GEN303007 1-1BC2 U2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.4221	GEN336831 1-BAXTER WILSON SES	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.4217	GEN303006 1-1BC2 U1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.4214	GEN303008 1-1BC2 U3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0702	105.4172	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0698	105.4015	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07073	105.3991	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07143	105.3876	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07056	105.3829	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07091	105.3794	36 & MERIDIAN - CHEMTRON 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0698	105.3774	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.3747	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07104	105.3607	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07109	105.3537	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.3522	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.346	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.3432	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.3378	GEN337041 1-GERALD ANDRUS	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.3361	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.3297	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08065	105.3228	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.3227	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.322	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08972	105.3216	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07049	105.3179	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0702	105.3135	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0705	105.3068	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.2934	GEN562052 1-G11 040 3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0702	105.2883	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.2845	GEN335204 1-NELSON UNIT 4	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07091	105.2835	CHEMTRON - PENNSYLVANIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.2796	GEN336252 1-NINEMILE POINT UNIT#5	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07029	105.2791	MINGO - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06989	105.2754	THISTLE7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06989	105.2754	THISTLE7 345.00 - WICHITA 345KV CKT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.2725	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07053	105.2694	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0709	105.2635	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.2632	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07072	105.2616	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07073	105.2546	LONEOAK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07056	105.2417	HEFNER - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	105.2389	CORN TAP - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07068	105.227	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07085	105.2261	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0709	105.2214	CLASSEN - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07078	105.2169	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	105.2129	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	105.207	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07049	105.205	MCELROY - STILLWATER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07169	105.2037	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07115	105.2029	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07043	105.1996	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0711	105.1981	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	105.1969	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08953	105.196	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12202	105.1945	ARCADIA - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0705	105.1928	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07029	105.1769	WEBRE - WELLS 500KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07073	105.1721	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07058	105.1716	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07042	105.1714	HUGO - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.163	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.163	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	105.1528	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	105.1511	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0713	105.1497	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.1496	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06731	105.1492	CANADIAN RIVER - PITTSBURG 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07074	105.1413	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0706	105.1288	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07216	105.1258	TULSA NORTH - WEKIWA 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07044	105.1239	DIVISION AVE - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	105.1221	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07049	105.1221	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07069	105.1204	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07069	105.1171	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.1165	GEN336251 1-NINEMILE POINT UNIT#4	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.1045	GEN336831 1-BAXTER WILSON SES	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.0995	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06996	105.0942	ARCADIA - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07067	105.0889	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07081	105.0866	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06955	105.0862	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07053	105.0788	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0711	105.0676	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07043	105.0622	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07049	105.0571	KINZE - MCELROY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06955	105.0567	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07117	105.0524	BLACKBERRY - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07054	105.0502	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07106	105.0481	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.046	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07079	105.0456	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07106	105.0446	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07065	105.0378	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.0366	GEN334441 1-SABINE UNIT 5	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07014	105.0316	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.0309	GEN334070 1-LEWIS CREEK 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07115	105.0293	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.0276	GEN334433 1-SABINE UNIT 3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.0221	GEN506752 1-LEBROCK GAS 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07085	105.02	LACYGNE - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.0198	GEN337041 1-GERALD ANDRUS	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	105.0147	GEN334071 1-LEWIS CREEK 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0711	105.0004	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09024	104.9918	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07066	104.9916	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06996	104.99	CHITWOOD - LGARBER4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08032	104.9881	G12-032 TAP 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07025	104.9841	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07057	104.9819	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.9814	GEN562052 1-G11_040_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	104.9759	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07081	104.973	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07074	104.9698	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07058	104.9678	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07052	104.9663	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0706	104.9659	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06996	104.9657	CHITWOOD - JONES TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.9561	GEN336191 1-LITTLE GYPSY UNIT#3	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08941	104.9543	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0706	104.9535	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07071	104.9481	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07056	104.948	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.9468	GEN336464 1-MICHOUD UNIT #3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07028	104.9437	GRAND ISLAND - SWEETWATER 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07065	104.9436	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08131	104.9385	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07049	104.9348	LONEOAK - QUAIL CREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07066	104.9327	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07052	104.9245	MOORE - PAULINE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07052	104.9216	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07054	104.9164	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07148	104.9131	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07044	104.9047	ANADARKO - GRACMNT4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07069	104.9035	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	104.9018	EL RENO SW - MUSTANG 69KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07052	104.9002	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07046	104.9	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07046	104.8992	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07051	104.8958	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07071	104.8938	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	104.8909	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0709	104.8864	LIGHTNING CREEK - ROBINSON 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07085	104.8829	BLANCHARD - CORNVILLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0711	104.8815	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07076	104.8709	BRISTOW - SILVER CITY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07058	104.8678	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07026	104.8677	HOLCOMB - SETAB 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07065	104.8668	OSAGE - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.849	GEN334030 1-FRONTIER UNIT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.849	GEN334031 1-FRONTIER UNIT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07034	104.8489	HUGO - VALLIANT 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07071	104.846	OIL CENTER - STRATFORD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07048	104.8443	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.8361	GEN503909 1-FULTONU1 1 16.000	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0705	104.815	8HOLND BTM% 500.00 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	104.8071	DAYTON - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	104.8038	DAYTON - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07035	104.8038	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07025	104.7997	8DANIEL 500.00 - MCKNIGHT 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.7862	GEN506749 1-EASTMAN GENERATION A	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07057	104.7659	GOLDSBY - OUSW4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07043	104.7623	RENO COUNTY - SUMMIT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07029	104.7538	AXTELL - PAULINE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07085	104.7535	SUNSHINE CANYON - WESTMOORE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07018	104.7436	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0703	104.7282	HAMMETT TAP - HAMMETT2 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07081	104.715	MARSHALL - WOODRING 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0709	104.7129	LIGHTNING CREEK - TROSPER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07081	104.7125	COTTONWOOD CREEK - MARSHALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06989	104.711	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0704	104.7046	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07065	104.6912	FAIRFAX TAP - SHIDLER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07065	104.6912	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07085	104.6858	BLANCHARD - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07042	104.6787	TULSA NORTH (TULSA N) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07034	104.6464	COUNCIL - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07035	104.6442	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07028	104.6435	ANADARKO - GEORGIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07032	104.6417	MORISNT4 138.00 - SOONER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07037	104.641	OUMED 4 - STONEWALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07057	104.638	CANADIAN SW - GOLDSBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07035	104.6311	COMANCHE - LOCO 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07032	104.6266	HEFNER - TULSA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.6244	CIVIT - PAOLI 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0704	104.6193	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08991	104.6113	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07041	104.6088	7JASPER 345.00 - MORGAN 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07028	104.608	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0703	104.6034	HAMMETT2 - MEEKER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07028	104.6008	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07028	104.599	FLETCHER - GEORGIA 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	104.5903	36 & MERIDIAN - HOBBY LOBBY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07037	104.5802	EL RENO SW - MUSTANG 69KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07022	104.5797	MAGNET COVE - SHERIDAN EHV 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07022	104.5789	HOT SPRINGS EHV - MAGNET COVE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07027	104.5762	ATCHSNT3 345.00 - BOONEVILLE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07026	104.5735	SHERIDAN EHV - WHITE BLUFF 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.5704	CIVIT - STRATFORD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07028	104.5663	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07037	104.5602	OUMED 4 - PARK PLACE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07028	104.5534	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07034	104.5466	COUNCIL - WESTOAKS 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.4152	BASE CASE	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08079	104.3658	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.336	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.2021	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.1262	GEN520812 1-ANADRK5	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.1256	GEN520813 1-ANADRK6	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.1035	BASE CASE	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.0947	GEN520811 1-ANADRK4	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.0903	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07066	104.0854	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.0844	GEN511840 1-NORTHEASTERN STATION #3	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.0143	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.0136	GEN512689 1-GRDA1 GSU1 22	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.0121	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	104.0121	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9739	GEN562314 1-G12-039 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07092	103.9661	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07092	103.9649	BURGETT4 138.00 - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9613	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9612	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07092	103.9578	ARCADIA - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07051	103.9526	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9481	GEN530594 01-SMKYP1G1 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9476	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9459	GEN560166 1-G07-48 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9383	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9357	GEN514905 1-REDBUD3S	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9348	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9261	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9086	GEN514899 1-REDBUD1S	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07042	103.9068	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.906	GEN560711 1-G10_044_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07042	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07042	103.9043	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.9005	GEN546698 1-QN GEN2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07064	103.8837	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.8804	GEN512688 2-GRDA1 GSU2 22	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.8791	GEN514942 2-REDBUD4G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0706	103.8763	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	103.8675	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.8656	GEN560282 1-G08-19 0.6000	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.8649	GEN560175 1-G07-44 0.5750	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07072	103.8628	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.8517	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.8412	GEN514910 2-REDBUD GEN	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.8357	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07075	103.8343	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.8339	GEN560339 1-G10-48 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0705	103.8265	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.8262	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.8262	GEN562119 1-G12_007_3 13.800	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0705	103.8255	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.8148	GEN520812 1-ANADRK5	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.8142	GEN520813 1-ANADRK6	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.7953	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.7886	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.7834	GEN520811 1-ANADRK4	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0705	103.7761	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07042	103.7651	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.7619	GEN511841 1-NORTHEASTERN STATION #4	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.7557	GEN511840 1-NORTHEASTERN STATION #3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0718	103.7488	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.744	GEN560331 1-G10-46 13.800	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.7428	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.739	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.7388	GEN562317 1-G12-040 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0707	103.7234	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0707	103.7201	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07049	103.7189	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.7108	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07075	103.7098	FOREST HILL - SQUIRL CREEK 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.7017	GEN640022 1-BEATRICE POWER STATION UNIT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.7017	GEN640023 2-BEATRICE POWER STATION UNIT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.7013	GEN547649 1-ASBURY UNIT #1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07072	103.6977	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07101	103.6925	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.6916	GEN562092 1-G12_001_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.682	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.6806	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.6746	GEN560666 1-G10-056 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.673	GEN301380 1-IOSAGEWIND 34.500	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07028	103.6716	WESTMOORE - WILROGR4 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.6624	GEN562314 1-G12-039 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07084	103.6608	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.651	GEN640024 3-BEATRICE POWER STATION UNIT 3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.6504	GEN300001 1-THOMAS HILL UNIT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07068	103.6439	BURGETT4 138.00 - DANFORTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07068	103.6426	BURGETT4 138.00 - RDNBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.637	GEN530594 01-SMKYP1G1 0.6900	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.6367	GEN562084 1-G11_050_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07068	103.6356	ARCADIA - RNDBARN4 138.00 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.6341	GEN560166 1-G07-48 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07026	103.631	CROCKETT - GRIMES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.6275	GEN522814 1-LUBBOCK POWER & LIGHT-MACKENZIE GEN	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.6257	GEN532997 1-CLR_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.6246	GEN514905 1-REDBUD3S	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.616	GEN541170 4-LAKERD#4 13.800	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07059	103.6088	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.5975	GEN514899 1-REDBUD1S	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.597	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07018	103.5964	FIXICO TAP - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.5949	GEN560711 1-G10_044_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.5905	GEN546698 1-QN GEN2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07017	103.5837	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07017	103.5837	BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.5745	GEN562327 1-G12-026 13.800	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.568	GEN514942 2-REDBUD4G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07039	103.5641	DELL 500 - INDEPENDENCE 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07035	103.5605	ARKANSAS NUCLEAR ONE - PLEASANT HILL 500KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.5548	GEN560282 1-G08-19 0.6000	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.5541	GEN560175 1-G07-44 0.5750	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07048	103.5491	DISCVRY - FOSTER 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.5466	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.5406	GEN562003 1-G11_027_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.5302	GEN514910 2-REDBUD GEN	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07021	103.526	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.5249	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.5239	GEN560339 1-G10-48 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.516	GEN562118 1-G12_007_2 13.800	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.516	GEN562119 1-G12_007_3 13.800	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.5156	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07025	103.505	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07025	103.5039	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	103.5019	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0705	103.5011	NORTHEAST STATION - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.4947	GEN301380 1-10SAGEWIND 34.500	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.4836	GEN526331 1-JONES GEN #1 22 KV	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.4771	GEN526332 1-JONES GEN #2 21 KV	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07025	103.4545	DOLET HILLS 345/230KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.4445	GEN562317 1-G12-040 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.4339	GEN560331 1-G10-46 13.800	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07157	103.4272	MUSKOGEE - PECAN CREEK 345KV CKT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.427	GEN527882 1-CUNNINGHAM GEN #2 20 KV	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.4237	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	103.4003	CANADIAN RIVER - MCALESTER SOUTH 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.4003	GEN300002 1-THOMAS HILL UNIT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	103.3971	CANADIAN RIVER () 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07024	103.396	WELSH - WILKES 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.3817	GEN562092 1-G12_001_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.3722	GEN641089 2-ENERGY CENTER 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.3718	GEN546702 1-NM GEN N1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.3717	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07076	103.3686	FOREST HILL - MAUD 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.3648	GEN560666 1-G10-056 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07048	103.3602	DISCVRY - OAKCREEK 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.3423	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07059	103.3394	MAUD - SEMINOLE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.3304	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07564	103.3069	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07035	103.2878	PARK LANE - SEMINOLE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.2875	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06839	103.2822	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07215	103.2726	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.2652	GEN562327 1-G12-026 13.800	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07021	103.2466	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.2368	GEN659110 1-LELAND OLDS UNIT1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.2341	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	103.2332	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05148	103.2177	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.2065	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06997	103.1935	FRANKLIN - PINK SW 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05847	103.1603	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07116	103.1366	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.1297	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.1296	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0708	103.1029	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.097	GEN562288 1-G12-016-1 18.000	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.0782	GEN546702 1-NM GEN N1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	103.0591	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.0336	GEN645011 1-NEBRASKA CITY 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	103.0294	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	103.0224	GEN542956 2-LACYGNE UNIT #2	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	103.0012	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07545	102.9833	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.9824	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.9824	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.9824	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06716	102.9808	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07056	102.965	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07094	102.9639	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07186	102.9618	DELAWARE - NORTHEAST STATION 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06815	102.9616	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07352	102.9467	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.9258	GEN562049 1-G11_012_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06997	102.9255	FRANKLIN - FRANKLIN SW 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	102.911	GEN509416 1-TURK GENERATION	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07136	102.9108	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05137	102.9065	G12-041 TAP 345.00 - SOONER 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05824	102.8881	MATTHEWSON 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.8417	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06839	102.8393	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.8218	GEN523462 1-BLACKHAWK GEN #2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.8217	GEN523461 1-BLACKHAWK GEN #1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07091	102.819	FT SMITH - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.796	GEN520997 1-MORLND2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.7889	GEN562288 1-G12-016-1 18.000	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07055	102.7679	DRAPER LAKE - SOONER TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.7632	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.7573	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.7519	GEN520998 1-MORLND3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.7519	GEN542955 1-LACYGNE UNIT #1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05999	102.7498	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.7451	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09633	102.7287	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.7258	GEN527165 1-Mustang Gen #5	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.7245	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.716	GEN560669 1-G10_057 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05999	102.7023	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.6863	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.684	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06692	102.682	DRAPER LAKE - SEMINOLE 345KV CKT 3	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	102.6784	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.6751	GEN560386 1-G10-029-1 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.6751	GEN560387 1-G10-029-2 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.6751	GEN560388 1-G10-029-3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07103	102.6746	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08775	102.6741	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	102.6638	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06839	102.6622	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08919	102.6606	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.6545	GEN562298 1-G12-024 0.6500	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.6532	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0707	102.6438	SEMINOLE (SEMINOL1) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07031	102.6428	LYDIA - WELSH 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.6366	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.6182	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07326	102.6006	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	102.5762	GEN520947 1-HUGO1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.576	GEN562320 1-G12-041 18.000	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07111	102.5705	HOLLYWOOD - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.5691	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.5579	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.5356	GEN562065 1-G11_044_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.5292	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.5292	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06815	102.5194	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.5053	GEN562035 1-G11_016_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.4897	GEN520997 1-MORLND2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.4575	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05973	102.4539	NORTHWEST - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.4512	GEN560714 1-G10_061_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.4457	GEN520998 1-MORLND3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.4412	GEN527166 1-MUSTANG 6 18.000	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.4369	GEN562078 1-G11_051_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07062	102.4277	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.4205	GEN560329 1-G10-45	0.6900
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.4195	GEN527165 1-Mustang Gen #5	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.4182	GEN527164 1-MUSTANG GEN #4 22 KV	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.4109	GEN560669 1-G10_057	0.6900
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07153	102.4047	OAKCREEK - WILD MARY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05973	102.4012	SOONER - SPRING CREEK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.3796	GEN541151 3-SIBLEY GENERATING UNIT #3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.3749	GEN300003 1-THOMAS HILL UNIT 3	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.358	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07079	102.3547	SEMINOLE (SEMINOL2) 345/138/14.4KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.3488	GEN562298 1-G12-024	0.6500
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.3471	GEN527901 1-HOBBS PLANT #1 (CT)	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06815	102.3419	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	102.3419	GEN509406 1-WELSH #3	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	102.3413	GEN509404 1-WELSH #1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.3295	GEN659111 2-LELAND OLDS UNIT2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.3157	GEN562322 1-G12-042	13.800
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.3122	GEN527163 1-MUSTANG GEN #3 22 KV	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	102.3119	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08743	102.3079	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.2995	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07182	102.2963	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08887	102.2958	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.2757	GEN562320 1-G12-041	18.000
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.2632	GEN527161 1-MUSTANG GEN #1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	102.2591	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	102.2577	GEN520947 1-HUGO1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.2521	GEN527162 1-MUSTANG GEN #2	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07288	102.2489	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.2485	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.2225	GEN659103 1-ANTELOPE VALLEY UNIT1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.2225	GEN659107 2-ANTELOPE VALLEY UNIT2	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0958	102.208	CLEVELAND - TULSA NORTH 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.1998	GEN562035 1-G11_016_3	0.6900
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07199	102.1997	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06428	102.1835	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.1357	GEN527166 1-MUSTANG_6	18.000
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07288	102.1232	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07153	102.1166	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.1152	GEN560329 1-G10-45	0.6900
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	102.113	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07038	102.1092	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07128	102.0782	OAKCREEK - WILD MARY 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06428	102.0697	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.0536	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.0536	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.0402	GEN562308 1-G12-037	18.000
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	102.0223	GEN509406 1-WELSH #3	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	102.0217	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08919	102.0153	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	102.0113	GEN562322 1-G12-042	13.800
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.0067	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07352	102.0057	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	102.0054	GEN526334 1-JONES_4	116.500
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	102.0003	GEN515042 1-SEMINOLE 3G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.9985	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.9943	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.9941	GEN562042 1-G11_014_3	0.6900
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08919	101.9932	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.9902	GEN562311 1-G12-038	18.000
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07158	101.9719	CIMARRON - CZECH HALL 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.9436	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07182	101.9344	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	101.9277	GEN336153 1-WATERFORD UNIT#3	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07182	101.9236	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07153	101.904	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.9003	GEN599891 1-OKLAUN	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06406	101.895	DRAPER LAKE - SEMINOLE 345KV CKT 2	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07263	101.8907	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07173	101.8886	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07182	101.8317	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08919	101.8274	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	101.8244	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09326	101.7986	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	101.7921	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07128	101.79	AIRDEPT4 138.00 - WILD MARY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06406	101.7798	DRAPER LAKE - SEMINOLE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07263	101.7665	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.766	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.7492	GEN542951 5-HAWTHORN UNIT #5	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.7357	GEN562308 1-G12-037 18.000	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.7025	GEN526333 1-JONES GEN #3 21 KV	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.7011	GEN526334 1-JONES_4 116.500	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.6938	GEN645001 1-FORT CALHOUN 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.6906	GEN562042 1-G11_014_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.6859	GEN562311 1-G12-038 18.000	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08759	101.6814	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.6641	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07326	101.6627	CIMARRON - MINCO 345KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08887	101.6509	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07153	101.6491	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08887	101.6289	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.6248	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07158	101.6098	CZECH HALL - XEROX 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07158	101.5991	MORGAN - XEROX 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.5958	GEN599891 1-OKLAUN	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07128	101.5775	AIRDEPT4 138.00 - GM 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.528	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	101.5267	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	101.5132	GEN515041 1-SEMINOLE 2G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.5073	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07158	101.5065	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	101.5041	GEN520947 1-HUGO1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07543	101.4943	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08707	101.4791	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.479	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07214	101.4653	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08887	101.4631	MORGAN - MUSTANG 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.4624	GEN562289 1-G12-016-2 18.000	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	101.4554	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09293	101.4269	CIMARRON - SARA 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07543	101.3776	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.3621	GEN562032 1-G11_017_3 0.6900	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	101.3562	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.3302	GEN562302 1-G12-032 0.6500	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07128	101.3225	DRAPER LAKE - GM 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	101.3182	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08727	101.3174	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	101.2867	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	101.2758	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.2423	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.2422	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.2295	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.2271	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.2066	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07036	101.2007	BARNES 4 138.00 - DRAPER LAKE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	101.1775	GEN562014 1-G11_023_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07128	101.14	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0719	101.1377	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07515	101.1373	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	101.1368	GEN531447 1-HOLCOMB GENERATOR	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	101.1355	GEN520947 1-HUGO1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07894	101.1163	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07167	101.1107	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08674	101.1056	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	101.0985	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	101.085	GEN509416 1-TURK GENERATION	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	101.0233	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07515	101.0218	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.9724	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.9715	GEN562017 1-G11_022_3 0.6900	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08341	100.9642	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	100.9544	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	100.9475	GEN509403 1-PIRKEY GENERATION	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	100.9436	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.9411	GEN542957 1-IATAN UNIT #1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.9398	GEN562074 1-G11_049_3 0.6900	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0683	100.9327	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.9274	GEN645012 2-NEBRASKA CITY 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.9221	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08762	100.9079	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	100.8865	GEN515040 1-SEMINOLE 1G	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	100.8798	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.8789	GEN659118 1-LARAMIE RIVER UNIT1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06793	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06793	100.8758	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07543	100.8733	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07128	100.8541	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07128	100.8541	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08668	100.8497	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.836	GEN531447 1-HOLCOMB GENERATOR	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07104	100.8151	DRAPER LAKE (DRAPER2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0716	100.8141	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	100.8076	GEN335831 1-RIVERBEND UNIT#1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07872	100.7964	CLARKSVILLE - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.7954	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	100.7938	GEN509406 1-WELSH #3	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	100.7933	GEN509405 1-WELSH #2	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	100.7931	GEN509404 1-WELSH #1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08762	100.7906	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07143	100.7845	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07158	100.7515	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	0	18SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08227	100.7426	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	100.7199	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.6973	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06984	100.6951	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0716	100.673	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.6695	GEN562017 1-G11_022_3 0.6900	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07068	100.6493	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	100.6464	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06968	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06968	100.6448	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07175	100.6402	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	100.6379	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	100.6336	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.6207	GEN562020 1-G11_021_3 0.6900	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	100.613	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07146	100.608	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08309	100.6014	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.5784	GEN659118 1-LARAMIE RIVER UNIT1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07212	100.5748	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06769	100.5608	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06769	100.5608	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.5576	GEN562023 1-G11_020_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.5576	GEN562026 1-G11_019_3 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.5568	GEN515606 1-CANADN11 34.500	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.5568	GEN515607 1-CANADN12 34.500	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	100.554	GRAND GULF 500/22.0KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07145	100.5417	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07103	100.5292	DRAPER LAKE (DRAPER3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07103	100.5292	DRAPER LAKE (DRAPER4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07515	100.5224	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	100.5211	GEN515040 1-SEMINOLE 1G	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08729	100.5174	ANDERSONCO 345.00 - LACYGNE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07177	100.5128	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.4957	GEN542962 2-IATAN UNIT #2	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07137	100.4916	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08637	100.488	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07258	100.4693	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08582	100.4571	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07146	100.4533	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08198	100.4523	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07164	100.4497	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07278	100.4494	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07134	100.4277	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	100.4242	GEN509406 1-WELSH #3	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	100.4238	GEN509405 1-WELSH #2	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	100.4236	GEN509404 1-WELSH #1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07158	100.4134	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07146	100.4024	PITTSBURG - VALLIANT 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07089	100.4008	GEN501813 1-RODEMACHER UNIT 3	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08729	100.3983	ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06961	100.3868	CIMARRON - NORTHWEST 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07184	100.3798	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.3661	GEN562099 1-G11_054 0.6900	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.3661	GEN562100 1-G11_054 0.6900	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07137	100.3504	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07086	100.3465	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	100.3332	GEN501812 1-RODEMACHER UNIT 2	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07044	100.3267	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.3237	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07123	100.3234	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06943	100.3176	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06943	100.3176	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	100.3171	GEN335206 1-NELSON UNIT 6	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08601	100.3108	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0715	100.3061	HORSESHOE LAKE - JONES TAP 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07122	100.2861	ANADARKO - POCASSETT 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08448	100.2767	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07157	100.2717	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09032	100.2712	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	100.2589	GEN515225 1-MUSKOGEE 5G	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.2565	GEN562023 1-G11_020_3 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.2565	GEN562026 1-G11_019_3 0.6900	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07188	100.2474	MCCLAIN - PLEASANT VALLEY 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.2469	GEN515606 1-CANADN11 34.500	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.2469	GEN515607 1-CANADN12 34.500	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	100.2462	GEN515226 1-MUSKOGEE 6G	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	100.2253	GEN515223 1-MUSKOGEE 4G	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07121	100.2109	AXTELL - POST ROCK 345KV CKT 1	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	100.1917	GEN640009 1-COOPER NUCLEAR STATION	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07144	100.1894	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07153	100.1846	MEMORIAL - SKYLINE 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07144	100.1769	NORTHWEST - PANTHER 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07087	100.1606	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07162	100.1565	OKLAUNION - TUCCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07126	100.1516	MINGO - RED WILLOW 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07133	100.1479	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07233	100.1394	JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06888	100.1338	BENTON - WICHITA 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07113	100.133	GEN334440 1-SABINE UNIT 4	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07122	100.1315	POCASSETT - TUTTLE 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0861	100.1287	ARCADIA - KAMO MEMORIAL 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09032	100.112	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07144	100.1085	PANTHER - SILVER LAKE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07253	100.0919	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07176	100.0916	KETCH TAP - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07146	100.0899	SUNSHINE CANYON - TUTTLE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07134	100.0898	BLANCHARD - OUSW4 138KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	100.0871	GEN501801 1-DOLET HILLS UNIT1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07139	100.0865	MORISNT4 138.00 - STILLWATER 138KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07121	100.0794	PITTSBURG - VALLIANT 345KV CKT 1	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.0569	GEN562099 1-G11_054 0.6900	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	100.0569	GEN562100 1-G11_054 0.6900	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0716	100.0554	QUAIL CREEK - SKYLINE 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08452	100	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07099	100	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0706	100	REDBUD - RIVERSIDE STATION 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06214	100	MUSKOGEE - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09326	99.9	MCCLAIN - SARA 138KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08996	99.9	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08654	99.9	OKLAUNION - TUCCO INTERCHANGE 345KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08569	99.9	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08418	99.9	CANADIAN RIVER - MUSKOGEE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0718	99.9	KETCH - KETCH TAP 138KV CKT 1	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07144	99.9	DIVISION AVE - LAKESIDE 138KV CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07133	99.9	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0712	99.9	LONEOAK - NORTHWEST 138KV CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04431	116.1887	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04424	116.0806	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04431	114.235	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04424	114.1307	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04821	109.2972	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04816	109.2236	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04821	107.1535	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04816	107.0817	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04529	102.1794	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04524	102.1128	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04529	100.3669	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_041	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04524	100.3022	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04378	114.774	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04371	114.6672	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04378	112.8585	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04371	112.7554	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04761	107.9159	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04756	107.8432	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	23SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04761	105.813	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	23SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04756	105.7421	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	18SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04473	100.8885	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	2	18SP	G12_041	FROM->TO	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04468	100.8227	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04063	133.8372	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB	TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)	
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04056	133.7006	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04063	131.2878	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04056	131.1583	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03354	104.4226	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03347	104.2838	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03112	103.4921	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03106	103.3875	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03103	103.2373	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03097	103.1329	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03354	102.9264	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03347	102.7934	CIMARRON - DRAPER LAKE 345KV CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03112	101.9767	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03106	101.8762	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03103	101.7268	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03097	101.6266	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04879	101.0535	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03083	100.8755	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.04865	100.8554	ARCADIA - NORTHWEST 345KV CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03077	100.7724	CIMARRON - CZECH HALL 138KV CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03083	100	CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03083	100	MORGAN - XEROX 138KV CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03077	99.9	CZECH HALL - XEROX 138KV CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03077	99.9	MORGAN - XEROX 138KV CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03935	122.5131	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03928	122.3884	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	0	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03935	120.1546	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00NR	2	13SP	G12_041	FROM->TO	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03928	120.0362	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03NR	0	13G	G12_042	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.04435	106.5281	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03NR	2	13G	G12_042	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.04442	104.6774	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1

H: Power Flow Analysis (Other Constraints Not Requiring Mitigation)

See next page.

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FNSL-Blown up	01ALL		0 13G	ASGI_12_002		Non-Converged Contingency	0	0.14945	-		DBL-TGA-MATT
FNSL-Blown up	03ALL		2 13G	ASGI_12_002		Non-Converged Contingency	0	0.17107	-		DBL-TGA-MATT
FNSL-Blown up	03ALL		0 13G	ASGI_12_002		Non-Converged Contingency	0	0.14392	-		DBL-BVR-WWRD
FNSL-Blown up	03ALL		0 13G	ASGI_12_002		Non-Converged Contingency	0	0.14182	-		DBL-TGA-MATT
FNSL-Blown up	03ALL		0 13G	ASGI_12_002		Non-Converged Contingency	0	0.13606	-		DBL-WICH-THI
FNSL-Blown up	03ALL		2 13G	ASGI_12_002		Non-Converged Contingency	0	0.12612	-		DBL-WICH-THI
FNSL-Blown up	03ALL		0 13G	ASGI_12_002		Non-Converged Contingency	0	0.05725	-		DBL-MUL-RENO
FNSL-Blown up	03ALL		0 13G	ASGI_12_002		Non-Converged Contingency	0	0.05725	-		DBL-SPRVL-MU
FNSL-Blown up	03ALL		2 13G	ASGI_12_002		Non-Converged Contingency	0	0.05441	-		DBL-MUL-RENO
FNSL-Blown up	03ALL		2 13G	ASGI_12_002		Non-Converged Contingency	0	0.05441	-		DBL-SPRVL-MU
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07265	127.0334		GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0678	123.1511		GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09625	119.3636		DBL-TGA-G115
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09623	119.1127		G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09625	118.6307		DBL-WWRD-G11
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09623	118.6294		G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0739	117.5084		HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0739	115.2201		HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06708	111.4094		HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07588	110.9342		SPP-WERE-91
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07588	110.9338		EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07588	110.9304		MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07588	110.417		SPP-WERE-90
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07588	110.4161		MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07588	110.4146		CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07476	109.7297		WRTOD400
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0739	109.6699		VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07463	109.1794		HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06708	109.1297		HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07265	108.5317		BASE CASE
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07776	108.51		SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08651	108.1013		EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	3		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07368	107.9265		GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07708	107.6723		AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04355	107.2433		DBL-G1216-TH
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0762	106.7796		WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07487	106.6928		HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07073	106.6117		EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07073	106.6109		MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07073	106.6104		SPP-WERE-91
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07073	106.1026		MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07073	106.0994		SPP-WERE-90
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07073	106.0993		CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06979	105.3781		WRTOD400
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07332	105.3158		EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04021	105.1465		DBL-G1216-TH
FDNS	3		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0688	105.0613		GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0755	104.977		WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06967	104.853		HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07332	104.761		SPP-WERE-32
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07808	104.5779		EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07332	104.5282		HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07268	104.3579		SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0678	104.2215		BASE CASE
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08142	103.8473		EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06708	103.7211		VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07304	103.7087		45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07304	103.6267		45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07693	103.4122		MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07541	103.2476		G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07801	102.9141		RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07201	102.7621		AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0712	102.7113		WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06534	102.453		BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0699	102.4373		HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07681	102.3134		MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07681	102.3134		MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07304	101.8449		CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07582	101.6248		MINGO - SETAB 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07835	101.5635		JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06989	101.4652		ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07304	101.3821		SPP-WERE-28
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0689	101.3635		BEAVER CO 345.00 - BUCKNER7 345.00 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0684	101.1999	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07304	101.1858	CENTENNIAL - WACO 138KV CKT 1	
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07038	101.0649	G12-11T 345.00 - POST ROCK 345KV CKT 1	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07265	100.9779	GEN542956 2-LACYGNE UNIT #2	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07265	100.9766	GEN542955 1-LACYGNE UNIT #1	
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07053	100.9567	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06413	100.7425	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1	
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0684	100.706	SPP-WERE-32	
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07306	100.5952	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	
FDNS	03ALL		2 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0684	100.4376	HOOVER NORTH - LAKERIDGE 138KV CKT 1	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07467	100.378	SPP-MKEC-08	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07454	100.3005	SPP-WEPL-03	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07454	100.2996	SPP-MKEC-05	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09515	100.2078	SPP-SWPS-01	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09526	100.1861	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07395	100.1803	AXTELL - PAULINE 345KV CKT 1	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07454	100.171	SPP-WEPL-03A	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06425	100.1069	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05511	100.084	DBL-WWRD-G12	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07271	100.0731	87th STREET - STRANGER CREEK 345KV CKT 1	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07454	100	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07286	99.9	HOOVER NORTH - HOOVERS4 138.00 138KV CKT 1	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07265	99.9	GEN336821 1-GRAND GULF UNIT	
FDNS	03ALL		0 13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07265	99.9	GEN514806 1-SOONER UNIT 2	
FDNS	01ALL		2 13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04507	104.0767	GRACEMONT - MINCO 345KV CKT 1	
FDNS	01ALL		0 13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04024	103.4052	GRACEMONT - MINCO 345KV CKT 1	
FDNS	01ALL		2 13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09201	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	01ALL		0 13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08873	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	01ALL		2 13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06989	101.0705	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	01ALL		0 13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06623	100.3427	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	06ALL		0 13G	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.17996	99.9	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	
FDNS	01ALL		2 13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04258	170.2266	DBL-WWRD-G12	
FDNS	1		2 13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04275	140.6011	DBL-WWRD-G12	
FDNS	01ALL		0 13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05006	124.0842	DBL-WWRD-G12	
FDNS	1		0 13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05018	107.193	DBL-WWRD-G12	
FDNS	01ALL		0 13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03369	107.0046	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	01ALL		2 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04258	244.9183	DBL-WWRD-G12	
FDNS	1		2 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04275	204.4558	DBL-WWRD-G12	
FDNS	01ALL		0 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05006	155.6028	DBL-WWRD-G12	
FDNS	1		0 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05018	139.6141	DBL-WWRD-G12	
FDNS	06ALL		2 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0506	138.2941	DBL-WWRD-G12	
FDNS	6		2 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05088	125.2936	DBL-WWRD-G12	
FDNS	06ASGI_12_002		2 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05089	125.2933	DBL-WWRD-G12	
FDNS	06ASGI_12_002		0 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05077	125.2109	DBL-WWRD-G12	
FDNS	01ALL		0 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03369	123.7129	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	1		0 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0337	116.2256	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	06ALL		0 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05048	113.9017	DBL-WWRD-G12	
FDNS	06ALL		2 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03413	108.1155	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	6		0 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05076	106.6634	DBL-WWRD-G12	
FDNS	06ALL		0 13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03404	100.2423	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	07ALL		0 13G	ASGI_12_002	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.03377	102.3321	CLINTON JUNCTION - ELK CITY 138KV CKT 1	
FDNS	00ASGI_12_002		0 18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03157	104.2925	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	0		0 18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03155	104.2917	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	00ASGI_12_002		0 18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03157	103.5396	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	0		0 18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03155	103.5389	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	06ALL		0 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06756	105.5604	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1	
FDNS	06ALL		2 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06772	105.5534	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1	
FDNS	06ALL		0 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06756	105.5518	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1	
FDNS	06ALL		0 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06756	105.5518	SPP-SWPS-K37	
FDNS	06ALL		2 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06772	105.5455	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1	
FDNS	06ALL		2 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06772	105.5455	SPP-SWPS-K37	
FDNS	06ALL		0 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06756	105.5137	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1	
FDNS	06ALL		2 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06772	105.5063	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1	
FDNS	06ALL		0 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06756	105.5063	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1	
FDNS	06ALL		0 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06756	105.5063	SPP-SWPS-K37	
FDNS	06ALL		2 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06772	105.5001	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1	
FDNS	06ALL		2 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06772	105.5001	SPP-SWPS-K37	
FDNS	06ALL		0 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07538	103.0426	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	
FDNS	06ALL		0 13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07538	102.9974	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	06ALL		2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07515	102.7373	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL		2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07515	102.6924	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL		2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08686	102.3988	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL		2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08686	102.3542	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL		0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08649	102.2059	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL		0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08649	102.1614	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL		0	13G	ASGI_12_002	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.38061	115.7722	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06ALL		0	13G	ASGI_12_002	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.38061	114.6928	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06ALL		0	13G	ASGI_12_002	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.37203	113.3455	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	06ALL		0	13G	ASGI_12_002	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.37203	112.068	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	00ASGI_12_002		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03819	120.4271	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03817	120.4138	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0		2	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03817	120.412	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04966	117.5523	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04963	117.5335	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0		2	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04963	117.5306	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00ASGI_12_002		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04908	112.6628	BASE CASE
FDNS	0		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04906	112.6348	BASE CASE
FDNS	0		2	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04905	112.6313	BASE CASE
FDNS	00ASGI_12_002		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0506	106.0835	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05058	106.0706	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0		2	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05058	106.0678	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00ASGI_12_002		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04966	102.4644	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04963	102.4448	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0		2	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04963	102.442	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.07964	102.2615	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0		2	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.07964	102.2571	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.07968	102.2383	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06065	100.9129	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0		0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06062	100.8888	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0		2	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06062	100.8853	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FNSL-Blown up	01ALL		0	13G	G12_015		Non-Converged Contingency	0	0.1496	-	DBL-TGA-MATT
FNSL-Blown up	03ALL		2	13G	G12_015		Non-Converged Contingency	0	0.17125	-	DBL-TGA-MATT
FNSL-Blown up	03ALL		0	13G	G12_015		Non-Converged Contingency	0	0.14498	-	DBL-BVR-WWRD
FNSL-Blown up	03ALL		0	13G	G12_015		Non-Converged Contingency	0	0.14197	-	DBL-TGA-MATT
FNSL-Blown up	03ALL		0	13G	G12_015		Non-Converged Contingency	0	0.13615	-	DBL-WICH-THI
FNSL-Blown up	03ALL		2	13G	G12_015		Non-Converged Contingency	0	0.1262	-	DBL-WICH-THI
FNSL-Blown up	03ALL		0	13G	G12_015		Non-Converged Contingency	0	0.05735	-	DBL-MUL-RENO
FNSL-Blown up	03ALL		0	13G	G12_015		Non-Converged Contingency	0	0.05735	-	DBL-SPRVL-MU
FNSL-Blown up	03ALL		2	13G	G12_015		Non-Converged Contingency	0	0.05451	-	DBL-MUL-RENO
FNSL-Blown up	03ALL		2	13G	G12_015		Non-Converged Contingency	0	0.05451	-	DBL-SPRVL-MU
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07273	127.0334	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06788	123.1511	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09636	119.3636	DBL-TGA-G115
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09634	119.1127	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09636	118.6307	DBL-WWRD-G11
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09634	118.6294	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07402	117.5084	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07402	115.2201	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06719	111.4094	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07596	110.9342	SPP-WERE-91
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07596	110.9338	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07596	110.9304	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07596	110.417	SPP-WERE-90
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07596	110.4161	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07596	110.4146	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07485	109.7297	WRTOD400
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07402	109.6699	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07472	109.1794	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06719	109.1297	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07273	108.5317	BASE CASE
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07785	108.51	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0866	108.1013	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	3		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07377	107.9265	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07716	107.6723	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04365	107.2433	DBL-G1216-TH
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07628	106.7796	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07495	106.6928	HOYT - STRANGER CREEK 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07081	106.6117	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07081	106.6109	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07081	106.6104	SPP-WERE-91
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07081	106.1026	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07081	106.0994	SPP-WERE-90
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07081	106.0993	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06987	105.3781	WRTOD400
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0734	105.3158	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0403	105.1465	DBL-G1216-TH
FDNS	3		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06888	105.0613	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07558	104.977	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06975	104.853	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0734	104.761	SPP-WERE-32
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07816	104.5779	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0734	104.5282	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07276	104.3579	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06788	104.2215	BASE CASE
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0815	103.8473	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06719	103.7211	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07313	103.7087	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07313	103.6267	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07701	103.4122	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07549	103.2476	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0781	102.9141	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07209	102.7621	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07128	102.7113	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06542	102.453	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06998	102.4373	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07689	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07689	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07313	101.8449	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07591	101.6248	MINGO - SETAB 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07844	101.5635	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06997	101.4652	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07313	101.3821	SPP-WERE-28
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06898	101.3635	BEAVER CO 345.00 - BUCKNER7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06848	101.1999	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07313	101.1858	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07046	101.0649	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07273	100.9779	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07273	100.9766	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07061	100.9567	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06422	100.7425	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06848	100.706	SPP-WERE-32
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07314	100.5952	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		2	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06848	100.4376	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07475	100.378	SPP-MKEC-08
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07463	100.3005	SPP-WEPL-03
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07463	100.2996	SPP-MKEC-05
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09514	100.2078	SPP-SWPS-01
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09524	100.1861	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07403	100.1803	AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07463	100.171	SPP-WEPL-03A
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06434	100.1069	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0552	100.084	DBL-WWRD-G12
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0728	100.0731	87th STREET - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07463	100	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07294	99.9	HOOVER NORTH - HOOVER54 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07273	99.9	GEN336821 1-GRAND GULF UNIT
FDNS	03ALL		0	13G	G12_015	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07273	99.9	GEN514806 1-SOONER UNIT 2
FDNS	01ALL		2	13G	G12_015	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04516	104.0767	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL		0	13G	G12_015	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04033	103.4052	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL		2	13G	G12_015	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09197	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		0	13G	G12_015	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0887	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		2	13G	G12_015	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06991	101.0705	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL		0	13G	G12_015	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06625	100.3427	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	06ALL		0	13G	G12_015	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.19578	99.9	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	01ALL		2	13G	G12_015	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04255	170.2266	DBL-WWRD-G12
FDNS	1		2	13G	G12_015	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04271	140.6011	DBL-WWRD-G12
FDNS	01ALL		0	13G	G12_015	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05004	124.0842	DBL-WWRD-G12
FDNS	1		0	13G	G12_015	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05015	107.193	DBL-WWRD-G12
FDNS	01ALL		0	13G	G12_015	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03367	107.0046	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL		2	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04255	244.9183	DBL-WWRD-G12

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	1		2	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04271	204.4558	DBL-WWRD-G12
FDNS	01ALL		0	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05004	155.6028	DBL-WWRD-G12
FDNS	1		0	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05015	139.6141	DBL-WWRD-G12
FDNS	06ALL		2	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05057	138.2941	DBL-WWRD-G12
FDNS	06G12_015		2	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05084	125.4933	DBL-WWRD-G12
FDNS	6		2	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05085	125.2936	DBL-WWRD-G12
FDNS	01ALL		0	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03367	123.7129	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	1		0	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03368	116.2256	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ALL		0	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05045	113.9017	DBL-WWRD-G12
FDNS	06ALL		2	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03411	108.1155	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06G12_015		0	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05073	106.7792	DBL-WWRD-G12
FDNS	6		0	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05074	106.6634	DBL-WWRD-G12
FDNS	06ALL		0	13G	G12_015	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03402	100.2423	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	07ALL		0	13G	G12_015	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.03392	102.3321	CLINTON JUNCTION - ELK CITY 138KV CKT 1
FDNS	00G12_015		0	18SP	G12_015	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03159	104.9452	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	0		0	18SP	G12_015	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03159	104.2917	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF		0	18SP	G12_015	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03157	104.2642	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	00G12_015		0	18SP	G12_015	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03159	104.2084	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	0		0	18SP	G12_015	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03159	103.5389	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF		0	18SP	G12_015	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03157	103.5124	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	00NR		0	13SP	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03864	111.9476	SPP-SWPS-K37
FDNS	00NR		2	13SP	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03865	111.9347	SPP-SWPS-K37
FDNS	00NR		0	13SP	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03864	109.7995	SPP-SWPS-K37
FDNS	00NR		2	13SP	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03865	109.787	SPP-SWPS-K37
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06511	105.5604	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06527	105.5534	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06511	105.5518	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06511	105.5518	SPP-SWPS-K37
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06527	105.5455	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06527	105.5455	SPP-SWPS-K37
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06511	105.5137	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06527	105.5063	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06511	105.5063	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06511	105.5063	SPP-SWPS-K37
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06527	105.5001	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06527	105.5001	SPP-SWPS-K37
FDNS	06NR		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03178	103.248	SPP-SWPS-K37
FDNS	06NR		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03176	103.2083	SPP-SWPS-K37
FDNS	06NR		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03178	103.2018	SPP-SWPS-K37
FDNS	06NR		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.03176	103.162	SPP-SWPS-K37
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07154	103.0426	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07154	102.9974	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07131	102.7373	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07131	102.6924	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08448	102.3988	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL		2	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08448	102.3542	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08411	102.2059	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL		0	13G	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08411	102.1614	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00NR		0	13SP	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.036	100.2553	SPP-SWPS-T04
FDNS	00NR		2	13SP	G12_015	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03604	100.2131	SPP-SWPS-T04
FDNS	06ALL		0	13G	G12_015	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.37881	115.7722	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06ALL		0	13G	G12_015	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.37881	114.6928	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06ALL		0	13G	G12_015	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.37028	113.3455	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	06ALL		0	13G	G12_015	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.37028	112.068	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	0		0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03771	120.4138	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0		2	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03771	120.412	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF		0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03767	120.4103	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_015		0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03773	119.9397	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0		0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04905	117.5335	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0		2	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04905	117.5306	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00HOSKINSOFF		0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.049	117.5276	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00G12_015		0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04908	116.6169	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0		0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04848	112.6348	BASE CASE
FDNS	0		2	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04848	112.6313	BASE CASE
FDNS	00HOSKINSOFF		0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04843	112.6234	BASE CASE
FDNS	00G12_015		0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04851	111.8577	BASE CASE

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	0	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04998	106.0706	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	2	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04998	106.0678	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04993	106.065	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_015	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05001	105.4582	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04905	102.4448	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	2	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04905	102.442	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.049	102.4391	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.07883	102.2615	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.07883	102.2571	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.07876	102.253	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_015	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.07885	102.0803	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_015	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04908	101.8312	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05992	100.8888	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05992	100.8853	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05985	100.8817	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_015	0	13SP	G12_015	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05996	100.1252	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00NR	0	13SP	G12_016	TO->FROM	CEDARDALE - MOORELAND 138KV CKT 1	179	0.04923	101.3066	DBL-TGA-MATT
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09049	112.8055	DBL-WICH-THI
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09652	110.8741	DBL-G1216-TH
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08687	109.8905	OGE3TERM14
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08653	109.7766	OGE3TERM12
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08689	109.613	DBL-MUL-RENO
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07086	109.5468	DBL-WWRD-G12
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0892	109.4602	SPP-SWPS-01
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08689	109.4503	DBL-SPRVL-MU
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08707	109.4162	DBL-G1211-PT
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08684	109.2673	OGE3TERM47
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08684	109.2136	WRTOD400
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09519	109.0041	DBL-WICH-THI
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08816	108.9865	OGE3TERM18
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08746	108.9572	A222
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08679	108.8506	OGE3TERM17
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0869	108.8331	OGE3TERM11
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08832	108.8132	OGE3TERM20
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08662	108.5962	OGE3TERM13
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08656	108.5854	OGE3TERM19
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08664	108.341	AI43
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08649	108.3209	OGE3TERM3
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08649	108.2436	OGE3TERM28
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08651	108.2176	GRDA-OPGD-05
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08676	108.126	SPP-AEPW-35
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08655	108.0895	ATC_B2_8E2
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08662	108.0825	CELE-WELLOP2
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10335	107.6132	DBL-G1216-TH
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08649	107.1704	OGE3TERM36
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08648	107.1253	LES0001
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08544	107.0854	OGE3TERM33
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08685	106.8447	SPP-AEPW-04
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08995	106.7062	OGE3TERM14
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08994	106.5993	OGE3TERM12
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08694	106.5003	DBL-THIS-CLR
FDNS	00NR	2	18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08799	106.4558	DBL-WICH-THI
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07695	106.4237	DBL-WWRD-G12
FDNS	00NR	2	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0855	106.2878	OGE3TERM22
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09069	106.1694	DBL-G1211-PT
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09047	106.1144	DBL-MUL-RENO
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08981	106.0918	OGE3TERM47
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09036	106.0007	WRTOD400
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09047	106.0003	DBL-SPRVL-MU
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0907	105.7776	OGE3TERM18
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08985	105.7714	A222
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08999	105.6667	OGE3TERM17
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09061	105.6205	OGE3TERM11
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09024	105.6151	OGE3TERM20
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09216	105.5934	SPP-SWPS-01
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08997	105.4141	OGE3TERM13
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08994	105.4057	OGE3TERM19
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09001	105.1494	AI43
FDNS	00NR	0	13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08989	105.1381	OGE3TERM3

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR		2 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08647	105.1201	SPP-WERE-07C	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08992	105.0645	OGE3TERM28	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08987	105.0482	GRDA-OPGD-05	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09037	104.9642	SPP-AEPW-35	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08991	104.9006	CELE-WELLOP2	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08996	104.8951	ATC_B2_8E2	
FDNS	00NR		2 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08803	104.758	OGE3TERM23	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09398	104.5604	DBL-G1216-TH	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08458	104.4732	OGE3TERM14	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09215	104.3183	SPP-AEPW-32	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08409	104.074	OGE3TERM12	
FDNS	00NR		2 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09061	104.0717	DBL-BVR-WWRD	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09016	103.9181	OGE3TERM33	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0867	103.6987	SPP-SWPS-01	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08446	103.6824	DBL-MUL-RENO	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08988	103.6734	SPP-AEPW-04	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08446	103.5482	DBL-SPRVL-MU	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08465	103.47	DBL-G1211-PT	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09041	103.4205	DBL-THIS-CLR	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08439	103.3552	OGE3TERM47	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06892	103.3549	DBL-WWRD-G12	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0844	103.2692	WRTOD400	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08452	103.2357	OGE3TERM11	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09048	103.1081	OGE3TERM22	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08434	102.929	OGE3TERM17	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08514	102.8438	A222	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09608	102.7744	DBL-WICH-THI	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0856	102.7663	OGE3TERM20	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08412	102.7008	OGE3TERM19	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08418	102.6835	OGE3TERM13	
FDNS	00NR		0 13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12761	102.6045	DBL-WICH-THI	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08524	102.5665	OGE3TERM18	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08408	102.4366	GRDA-OPGD-05	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08431	102.4019	SPP-AEPW-35	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08421	102.3571	AI43	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08406	102.3328	OGE3TERM28	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	102.3172	OGE3TERM3	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08979	101.9656	SPP-WERE-07C	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09504	101.6697	DBL-BVR-WWRD	
FDNS	00NR		0 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08943	101.5685	OGE3TERM23	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1042	101.4599	DBL-G1216-TH	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09092	101.4156	OGE3TERM14	
FDNS	00NR		2 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09252	101.3127	SPP-AEPW-01	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08305	101.1772	OGE3TERM33	
FDNS	00NR		2 13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09787	101.1284	DBL-WICH-THI	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08405	101.1255	LES0001	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08436	101.1253	KCPL-MSL#03	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08436	101.1253	MTGY-OVER-5	
FDNS	00NR		2 13WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08246	101.1095	OGE3TERM21	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09088	101.0528	OGE3TERM12	
FDNS	00NR		0 13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12156	101.0415	OGE3TERM12	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08396	101.0171	SPP-SWPS-02A	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08455	101.0051	SPP-AEPW-04	
FDNS	00NR		0 13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.122	100.8258	OGE3TERM14	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08452	100.5495	DBL-THIS-CLR	
FDNS	00NR		0 13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12186	100.4395	WRTOD400	
FDNS	00NR		2 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08333	100.4137	OGE3TERM22	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07826	100.3671	DBL-WWRD-G12	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09165	100.356	DBL-G1211-PT	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09142	100.3298	DBL-MUL-RENO	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09078	100.3099	OGE3TERM47	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09142	100.224	DBL-SPRVL-MU	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09128	100.1991	WRTOD400	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09308	100.1537	SPP-SWPS-01	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09165	100.1442	OGE3TERM11	
FDNS	00NR		0 13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.13504	100.0775	DBL-G1216-TH	
FDNS	00NR		0 13SP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.12158	99.9	OGE3TERM47	
FDNS	00NR		0 18WP	G12_016	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09093	99.9	OGE3TERM17	
FDNS	00NR		0 13WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04056	217.0712	DBL-WICH-THI	
FDNS	00NR		0 18WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03976	216.1119	DBL-WICH-THI	
FDNS	00NR		0 23SP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03628	190.6383	DBL-WICH-THI	
FDNS	00NR		0 18SP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03816	185.9364	DBL-WICH-THI	
FDNS	01NR		0 13G	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03082	125.5395	DBL-WICH-THI	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00G12_016	0	18WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03525	109.2658	DBL-WICH-THI	
FDNS	0	0	18WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03525	109.2488	DBL-WICH-THI	
FDNS	00HOSKINSOFF	0	18WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03523	109.1814	DBL-WICH-THI	
FDNS	00G12_016	0	13WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03586	106.9176	DBL-WICH-THI	
FDNS	0	0	13WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03586	106.7679	DBL-WICH-THI	
FDNS	00HOSKINSOFF	0	13WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03585	106.7433	DBL-WICH-THI	
FDNS	00NR	0	13SP	G12_016	TO->FROM	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	153	0.0535	121.5703	DBL-TGA-MATT	
FDNS	01NR	0	13G	G12_016	TO->FROM	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	153	0.05349	116.1545	DBL-TGA-MATT	
FDNS	01NR	2	13G	G12_016	TO->FROM	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	153	0.04819	116.1508	DBL-TGA-MATT	
FDNS	00NR	0	13WP	G12_016	TO->FROM	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	185	0.05391	112.127	DBL-TGA-MATT	
FDNS	00NR	0	18SP	G12_016	TO->FROM	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	153	0.05176	111.244	DBL-TGA-MATT	
FDNS	00NR	0	18WP	G12_016	TO->FROM	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	185	0.05224	106.7444	DBL-TGA-MATT	
FDNS	00NR	0	13WP	G12_016	FROM->TO	CLEO CORNER - MEN TAP 138KV CKT 1	191	0.06176	110.2217	DBL-TGA-MATT	
FDNS	00NR	2	13WP	G12_016	FROM->TO	CLEO CORNER - MEN TAP 138KV CKT 1	191	0.03086	109.3905	DBL-TGA-MATT	
FDNS	00NR	0	18WP	G12_016	FROM->TO	CLEO CORNER - MEN TAP 138KV CKT 1	191	0.05991	104.3537	DBL-TGA-MATT	
FDNS	00NR	0	13WP	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	143	0.05094	128.9617	DBL-TGA-MATT	
FDNS	00NR	0	18WP	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	143	0.04937	122.4098	DBL-TGA-MATT	
FDNS	00NR	0	13SP	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	130	0.05123	121.023	DBL-TGA-MATT	
FDNS	00NR	0	18SP	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	130	0.04956	110.1762	DBL-TGA-MATT	
FDNS	01NR	0	13G	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	130	0.04389	108.6809	DBL-TGA-MATT	
FDNS	01NR	2	13G	G12_016	TO->FROM	DOVER SW - OKEENE 138KV CKT 1	130	0.03869	108.67	DBL-TGA-MATT	
FDNS	01NR	0	13G	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	153	0.05515	125.3052	DBL-TGA-MATT	
FDNS	01NR	2	13G	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	153	0.05497	125.1885	DBL-TGA-MATT	
FDNS	00NR	2	13SP	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	153	0.0363	112.8102	DBL-TGA-MATT	
FDNS	00NR	0	13SP	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	153	0.05471	112.7222	DBL-TGA-MATT	
FDNS	00NR	0	13WP	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	185	0.05135	111.7021	DBL-TGA-MATT	
FDNS	00NR	2	13WP	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	185	0.03539	111.0879	DBL-TGA-MATT	
FDNS	00NR	0	18WP	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	185	0.04998	108.1325	DBL-TGA-MATT	
FDNS	00NR	2	18WP	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	185	0.034	108.113	DBL-TGA-MATT	
FDNS	00NR	0	18SP	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	153	0.05329	103.2996	DBL-TGA-MATT	
FDNS	00NR	2	18SP	G12_016	TO->FROM	EL RENO - ROMAN NOSE 138KV CKT 1	153	0.03484	103.2869	DBL-TGA-MATT	
FDNS	01NR	0	13G	G12_016	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03082	167.1216	DBL-WICH-THI	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.05353	114.8738	DBL-WICH-THI	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.04307	114.8252	DBL-WICH-THI	
FDNS	00NR	0	18SP	G12_016	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.05566	110.8186	DBL-WICH-THI	
FDNS	00NR	0	13WP	G12_016	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.05874	109.8302	DBL-WICH-THI	
FDNS	00NR	0	18WP	G12_016	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.0579	106.8895	DBL-WICH-THI	
FDNS	00NR	2	18SP	G12_016	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.0361	105.3129	DBL-WICH-THI	
FDNS	00NR	2	13WP	G12_016	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.03627	101.4148	DBL-WICH-THI	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06851	139.5695	DBL-WICH-THI	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17966	139.3997	DBL-WICH-THI	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.18791	127.7604	DBL-G1216-TH	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.07813	127.702	DBL-G1216-TH	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06226	121.587	SPP-AEPW-32	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17581	121.4474	SPP-AEPW-32	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06227	119.1436	SPP-SWPS-01	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17582	119.0066	SPP-SWPS-01	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0611	118.6283	SPP-SWPS-03	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17477	118.5033	SPP-SWPS-03	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12458	117.4558	DBL-WWRD-G12	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06208	117.2589	SPP-SWPS-02A	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06008	117.1376	DBL-MUL-RENO	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17605	117.1339	SPP-SWPS-02A	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06008	117.0323	DBL-SPRVL-MU	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17291	117.007	DBL-MUL-RENO	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17291	116.9017	DBL-SPRVL-MU	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06208	115.8758	SPP-SWPS-02	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17605	115.7505	SPP-SWPS-02	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05935	110.8178	WRTOD400	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.1724	110.6968	WRTOD400	
FDNS	00NR	0	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05962	108.8615	SPP-MKEC-08	
FDNS	00NR	2	23SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.17259	108.7432	SPP-MKEC-08	
FDNS	00NR	2	13SP	G12_016	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05886	100	DBL-TGA-MATT	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05391	170.6444	DBL-TGA-MATT	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05224	162.6157	DBL-TGA-MATT	
FDNS	00NR	0	13SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0535	153.3458	DBL-TGA-MATT	
FDNS	01NR	2	13G	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04819	146.6834	DBL-TGA-MATT	
FDNS	01NR	0	13G	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05349	146.6553	DBL-TGA-MATT	
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05176	140.6087	DBL-TGA-MATT	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04384	135.383	DBL-WICH-THI	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04282	131.1119	DBL-WICH-THI	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0505	123.5873	DBL-G1216-TH	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04939	118.5447	DBL-G1216-TH	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.0416	116.836	DBL-WICH-THI	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03905	116.6488	SPP-AEPW-32	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03905	116.3616	SPP-SWPS-01	
FDNS	01NR	0	13G	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04903	115.1698	DBL-G1216-TH	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03807	114.4482	DBL-MUL-RENO	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03807	114.2421	DBL-SPRVL-MU	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03799	111.3949	SPP-AEPW-32	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.038	111.3227	SPP-SWPS-01	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03726	110.9955	DBL-MUL-RENO	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03726	110.8014	DBL-SPRVL-MU	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03772	109.6626	DBL-G1211-PT	
FDNS	01NR	2	13G	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03788	108.5675	DBL-G1216-TH	
FDNS	01NR	0	13G	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04286	107.6587	DBL-WICH-THI	
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.04796	107.3484	DBL-G1216-TH	
FDNS	00NR	0	18WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03694	106.3198	DBL-G1211-PT	
FDNS	01NR	2	13G	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03294	102.2879	DBL-WICH-THI	
FDNS	00NR	0	13WP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.05658	101.9593	DBL-WWRD-G12	
FDNS	00NR	0	13SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03126	100.5143	DBL-WICH-THI	
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03623	100.0939	DBL-MUL-RENO	
FDNS	00NR	0	18SP	G12_016	TO->FROM	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03623	100	DBL-SPRVL-MU	
FDNS	00NR	0	13WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04056	260.29	DBL-WICH-THI	
FDNS	00NR	0	18WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03976	259.5095	DBL-WICH-THI	
FDNS	00NR	0	23SP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03628	232.0874	DBL-WICH-THI	
FDNS	00NR	0	18SP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03816	225.9605	DBL-WICH-THI	
FDNS	01NR	0	13G	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03082	151.1338	DBL-WICH-THI	
FDNS	00G12_016	0	18WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03525	134.5104	DBL-WICH-THI	
FDNS	0	0	18WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03525	134.4913	DBL-WICH-THI	
FDNS	00HOSKINSOFF	0	18WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03523	134.4133	DBL-WICH-THI	
FDNS	00G12_016	0	13WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03586	131.4733	DBL-WICH-THI	
FDNS	0	0	13WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03586	131.305	DBL-WICH-THI	
FDNS	00HOSKINSOFF	0	13WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03585	131.2765	DBL-WICH-THI	
FDNS	00NR	0	23SP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04108	117.8162	DBL-WWRD-G12	
FDNS	00NR	2	23SP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03914	117.7993	DBL-WWRD-G12	
FDNS	00G12_016	0	18SP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03645	101.7174	DBL-WICH-THI	
FDNS	0	0	18SP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03645	101.7094	DBL-WICH-THI	
FDNS	00HOSKINSOFF	0	18SP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03645	101.6368	DBL-WICH-THI	
FDNS	00NR	0	18WP	G12_016	FROM->TO	MOORELAND - NINE MILE 138KV CKT 1	191	0.05084	111.7036	DBL-TGA-MATT	
FDNS	00NR	2	18WP	G12_016	FROM->TO	MOORELAND - NINE MILE 138KV CKT 1	191	0.03661	111.5089	DBL-TGA-MATT	
FDNS	00NR	0	18SP	G12_016	FROM->TO	MOORELAND - NINE MILE 138KV CKT 1	179	0.05285	109.4937	DBL-TGA-MATT	
FDNS	00NR	2	18SP	G12_016	FROM->TO	MOORELAND - NINE MILE 138KV CKT 1	179	0.03822	109.3348	DBL-TGA-MATT	
FDNS	00NR	0	13SP	G12_016	FROM->TO	MOORELAND - NINE MILE 138KV CKT 1	179	0.04411	105.5184	DBL-TGA-MATT	
FDNS	00NR	2	13SP	G12_016	FROM->TO	MOORELAND - NINE MILE 138KV CKT 1	179	0.03242	105.3433	DBL-TGA-MATT	
FDNS	00NR	0	18WP	G12_016	TO->FROM	MOREWOOD SW - NINE MILE 138KV CKT 1	191	0.05084	111.5358	DBL-TGA-MATT	
FDNS	00NR	2	18WP	G12_016	TO->FROM	MOREWOOD SW - NINE MILE 138KV CKT 1	191	0.03661	111.3483	DBL-TGA-MATT	
FDNS	00NR	0	18SP	G12_016	TO->FROM	MOREWOOD SW - NINE MILE 138KV CKT 1	179	0.05285	109.2221	DBL-TGA-MATT	
FDNS	00NR	2	18SP	G12_016	TO->FROM	MOREWOOD SW - NINE MILE 138KV CKT 1	179	0.03822	109.0746	DBL-TGA-MATT	
FDNS	00NR	0	13SP	G12_016	TO->FROM	MOREWOOD SW - NINE MILE 138KV CKT 1	179	0.04411	105.2987	DBL-TGA-MATT	
FDNS	00NR	2	13SP	G12_016	TO->FROM	MOREWOOD SW - NINE MILE 138KV CKT 1	179	0.03242	105.1281	DBL-TGA-MATT	
FDNS	01NR	0	13G	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	153	0.05515	130.1507	DBL-TGA-MATT	
FDNS	01NR	2	13G	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	153	0.05497	129.9811	DBL-TGA-MATT	
FDNS	00NR	2	13SP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	153	0.0363	120.5413	DBL-TGA-MATT	
FDNS	00NR	0	13SP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	153	0.05471	120.4451	DBL-TGA-MATT	
FDNS	00NR	0	13WP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	185	0.05135	116.3956	DBL-TGA-MATT	
FDNS	00NR	2	13WP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	185	0.03539	115.7663	DBL-TGA-MATT	
FDNS	00NR	0	18WP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	185	0.04998	112.398	DBL-TGA-MATT	
FDNS	00NR	2	18WP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	185	0.034	112.3719	DBL-TGA-MATT	
FDNS	00NR	0	18SP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	153	0.05329	110.328	DBL-TGA-MATT	
FDNS	00NR	2	18SP	G12_016	TO->FROM	ROMAN NOSE - SOUTHARD 138KV CKT 1	153	0.03484	110.3272	DBL-TGA-MATT	
FNSL-Blown up	01ALL	0	13G	G12_018		Non-Converged Contingency	0	0.04198	-	DBL-TGA-MATT	
FNSL-Blown up	03ALL	2	13G	G12_018		Non-Converged Contingency	0	0.05219	-	DBL-THIS-CLR	
FNSL-Blown up	03ALL	0	13G	G12_018		Non-Converged Contingency	0	0.05195	-	DBL-THIS-CLR	
FNSL-Blown up	03ALL	2	13G	G12_018		Non-Converged Contingency	0	0.04142	-	DBL-TGA-MATT	
FNSL-Blown up	03ALL	0	13G	G12_018		Non-Converged Contingency	0	0.03435	-	DBL-TGA-MATT	
FDNS	03ALL	0	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03837	117.5084	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	03ALL	0	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03837	115.2201	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	03ALL	2	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03625	111.4094	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	03ALL	0	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03837	109.6699	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	03ALL	2	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03625	109.1297	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	03ALL	0	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03392	107.2433	DBL-G1216-TH	
FDNS	03ALL	2	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03378	105.1465	DBL-G1216-TH	
FDNS	03ALL	2	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03625	103.7211	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	166.7135	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	09ALL	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	127.3853	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	
FDNS	09ALL_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	127.3838	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	0.78116	106.4558	SIOUX CITY - TWIN CHURCH 230KV CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	165.5836	G10-51T 230.00 - HOSKINS 230KV CKT 1	
FDNS	09ALL_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.4999	G10-51T 230.00 - HOSKINS 230KV CKT 1	
FDNS	09ALL	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.4894	G10-51T 230.00 - HOSKINS 230KV CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	0.62294	110.3193	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	0.52226	103.4377	HOSKINS - RAUN 345KV CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	0.46704	103.1397	RAUN - SIOUX CITY 345KV CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	0.50563	100.635	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018HOSKIN	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.0996	113.1712	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018HOSKIN	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.0996	111.7187	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018HOSKIN	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.1001	111.2208	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018HOSKIN	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.1001	109.7687	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018HOSKIN	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.12218	106.9377	TRF-HOSKINS	
FDNS	00G12_018	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.0996	106.3207	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018HOSKIN	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.12218	105.1874	TRF-HOSKINS	
FDNS	00G12_018HOSKIN	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.12199	105.0373	TRF-HOSKINS	
FDNS	00G12_018	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.0996	104.8096	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.1001	104.3993	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018	2	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07173	103.6475	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018HOSKIN	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.12199	103.2446	TRF-HOSKINS	
FDNS	00G12_018	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.1001	102.9167	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018	2	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07173	102.007	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018HOSKIN	0	23SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.09583	101.3635	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	00G12_018	2	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07229	101.1878	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1	336	0.72496	105.384	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1	336	0.72496	101.878	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	
FDNS	09ALL_BPSON_H OSKINSOFF	0	13G	G12_018	TO->FROM	SIOUX CITY - TWIN CHURCH 230KV CKT 1	320	0.80637	114.8284	G10-51T 230.00 - HOSKINS 230KV CKT 1	
FDNS	06ALL	0	13G	G12_018	FROM->TO	TUCXFR345230	300	0.03475	124.2	BASE CASE	
FNSL-Blown up	01ALL	0	13G	G12_020		Non-Converged Contingency	0	0.13813	-	DBL-TGA-MATT	
FNSL-Blown up	03ALL	2	13G	G12_020		Non-Converged Contingency	0	0.15741	-	DBL-TGA-MATT	
FNSL-Blown up	03ALL	0	13G	G12_020		Non-Converged Contingency	0	0.1305	-	DBL-TGA-MATT	
FNSL-Blown up	03ALL	0	13G	G12_020		Non-Converged Contingency	0	0.12963	-	DBL-WICH-THI	
FNSL-Blown up	03ALL	2	13G	G12_020		Non-Converged Contingency	0	0.12049	-	DBL-WICH-THI	
FNSL-Blown up	03ALL	0	13G	G12_020		Non-Converged Contingency	0	0.06782	-	DBL-BVR-WWRD	
FNSL-Blown up	03ALL	0	13G	G12_020		Non-Converged Contingency	0	0.04986	-	DBL-MUL-RENO	
FNSL-Blown up	03ALL	0	13G	G12_020		Non-Converged Contingency	0	0.04986	-	DBL-SPRVL-MU	
FNSL-Blown up	03ALL	2	13G	G12_020		Non-Converged Contingency	0	0.04724	-	DBL-MUL-RENO	
FNSL-Blown up	03ALL	2	13G	G12_020		Non-Converged Contingency	0	0.04724	-	DBL-SPRVL-MU	
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03437	129.1808	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	
FDNS	00HOSKINSOFF	0	13SP	G12_020	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03443	116.128	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	
FDNS	0	2	13SP	G12_020	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03449	116.1243	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	
FDNS	0	0	13SP	G12_020	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03449	116.1205	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06672	127.0334	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1	
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06227	123.1511	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1	
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08845	119.3636	DBL-TGA-G115	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08843	119.1127	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08845	118.6307	DBL-WWRD-G11	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08843	118.6294	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0658	117.5084	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0658	115.2201	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05958	111.4094	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06957	110.9342	SPP-WERE-91	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06957	110.9338	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06957	110.9304	MAIZE - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06957	110.417	SPP-WERE-90	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06957	110.4161	MAIZE - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06957	110.4146	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06867	109.7297	WRTOD400	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0658	109.6699	VIOLA 7 345.00 - WICHITA 345KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06855	109.1794	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05958	109.1297	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06672	108.5317	BASE CASE	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07148	108.51	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08058	108.1013	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	3		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06776	107.9265	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07094	107.6723	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03683	107.2433	DBL-G1216-TH
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07012	106.7796	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06877	106.6928	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06484	106.6117	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06484	106.6109	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06484	106.6104	SPP-WERE-91
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06484	106.1026	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06484	106.0994	SPP-WERE-90
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06484	106.0993	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0641	105.3781	WRTOD400
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06729	105.3158	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03366	105.1465	DBL-G1216-TH
FDNS	3		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06327	105.0613	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06945	104.977	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06398	104.853	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06729	104.761	SPP-WERE-32
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07199	104.5779	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06729	104.5282	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06681	104.3579	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06227	104.2215	BASE CASE
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07589	103.8473	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05958	103.7211	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06705	103.7087	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06705	103.6267	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07049	103.4122	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06931	103.2476	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07194	102.9141	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06628	102.7621	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06552	102.7113	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05957	102.453	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0642	102.4373	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07056	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07056	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06705	101.8449	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0695	101.6248	MINGO - SETAB 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07219	101.5635	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06393	101.4652	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06705	101.3821	SPP-WERE-28
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0633	101.3635	BEAVER CO 345.00 - BUCKNER7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06277	101.1999	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06705	101.1858	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06468	101.0649	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06672	100.9779	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06672	100.9766	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06488	100.9567	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05798	100.7425	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06277	100.706	SPP-WERE-32
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06737	100.5952	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06277	100.4376	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06866	100.378	SPP-MKEC-08
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06851	100.3005	SPP-WEPL-03
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06851	100.2996	SPP-MKEC-05
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0957	100.2078	SPP-SWPS-01
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09584	100.1861	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06792	100.1803	AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06851	100.171	SPP-WEPL-03A
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0581	100.1069	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04869	100.084	DBL-WWRD-G12
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06673	100.0731	87th STREET - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06851	100	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0669	99.9	HOOVER NORTH - HOOVERS4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06672	99.9	GEN336821 1-GRAND GULF UNIT
FDNS	03ALL		0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06672	99.9	GEN514806 1-SOONER UNIT 2
FDNS	01ALL		2	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03813	104.0767	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL		0	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03356	103.4052	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL		2	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09456	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		0	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09152	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		2	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06798	101.0705	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL		0	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0646	100.3427	ARCADIA - SEMINOLE 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.10683	102.8389	POTTER COUNTY INTERCHANGE - S-RANDLCO 230.00 230KV CKT 1	
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.10683	99.9	PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1	
FDNS	01ALL	2	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04472	170.2266	DBL-WWRD-G12	
FDNS	1	2	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04488	140.6011	DBL-WWRD-G12	
FDNS	01ALL	2	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03049	138.3808	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	01ALL	0	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05182	124.0842	DBL-WWRD-G12	
FDNS	1	2	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03054	114.6592	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	1	0	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05193	107.193	DBL-WWRD-G12	
FDNS	01ALL	0	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03497	107.0046	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	01ALL	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04472	244.9183	DBL-WWRD-G12	
FDNS	1	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04488	204.4558	DBL-WWRD-G12	
FDNS	01ALL	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03049	184.6813	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	1	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03054	157.5901	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	01ALL	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05182	155.6028	DBL-WWRD-G12	
FDNS	1	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05193	139.6141	DBL-WWRD-G12	
FDNS	06G12_020	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05242	139.22	DBL-WWRD-G12	
FDNS	06ALL	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05239	138.2941	DBL-WWRD-G12	
FDNS	6	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05267	125.2936	DBL-WWRD-G12	
FDNS	01ALL	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03497	123.7129	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	1	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03498	116.2256	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	06G12_020	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05226	114.5288	DBL-WWRD-G12	
FDNS	06ALL	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05223	113.9017	DBL-WWRD-G12	
FDNS	06G12_020	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03546	108.7856	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	06ALL	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03544	108.1155	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	6	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05252	106.6634	DBL-WWRD-G12	
FDNS	06G12_020	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03534	100.7292	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	06ALL	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03532	100.2423	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00G12_020	0	18WP	G12_020	TO->FROM	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1	361	0.09626	100.1902	SPP-AEPW-32	
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	HALE CO INTERCHANGE - TUCO INTERCHANGE 115KV CKT 1	96	0.06769	101.6645	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1	
FDNS	00G12_020	0	23SP	G12_020	FROM->TO	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2	351	0.03631	107.9549	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
FDNS	00HOSKINSOFF	0	23SP	G12_020	FROM->TO	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2	351	0.03635	103.4447	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
FDNS	0	0	23SP	G12_020	FROM->TO	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2	351	0.03635	103.4443	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
FDNS	06ALL	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.50767	115.7722	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	
FDNS	06ALL	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.50767	114.6928	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	
FDNS	06ALL	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.49623	113.3455	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	
FDNS	06ALL	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.49623	112.068	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19142	127.0334	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19096	123.1511	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19375	119.3636	DBL-TGA-G115	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19373	119.1127	G11 051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19375	118.6307	DBL-WWRD-G11	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19373	118.6294	G11 051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32269	117.5084	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32269	115.2201	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.31859	111.4094	HUNTERS7 345.00 - WOODRING 345KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20073	110.9342	SPP-WERE-91	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20073	110.9338	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20073	110.9304	MAIZE - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20073	110.417	SPP-WERE-90	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20073	110.4161	MAIZE - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20073	110.4146	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19512	109.7297	WRTOD400	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19512	109.7297	WRTOD400	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19491	109.1794	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.31859	109.1297	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19142	108.5317	BASE CASE	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20031	108.51	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.22178	108.1013	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	3	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19246	107.9265	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19554	107.6723	AXTELL - POST ROCK 345KV CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.21375	107.2433	DBL-G1216-TH	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20169	106.7796	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19515	106.6928	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20023	106.6117	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20023	106.6109	MAIZE - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20023	106.6104	SPP-WERE-91	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20023	106.1026	MAIZE - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20023	106.0994	SPP-WERE-90	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20023	106.0993	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19462	105.3781	WRTOD400	
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19469	105.3158	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.2142	105.1465	DBL-G1216-TH
FDNS	3		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19196	105.0613	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19966	104.977	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19441	104.853	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19469	104.761	SPP-WERE-32
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19469	104.761	SPP-WERE-32
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20148	104.5779	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19469	104.5282	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19979	104.3579	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19096	104.2215	BASE CASE
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.22121	103.8473	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19393	103.7087	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19393	103.6267	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19237	103.4122	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1928	103.2476	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19897	102.9141	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19499	102.7621	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20121	102.7113	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17707	102.453	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19466	102.4373	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19183	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19183	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19393	101.8449	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19185	101.6248	MINGO - SETAB 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19749	101.5635	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18694	101.4652	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19393	101.3821	SPP-WERE-28
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19393	101.3821	SPP-WERE-28
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19234	101.3635	BEAVER CO 345.00 - BUCKNER7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19423	101.1999	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19393	101.1858	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19229	101.0649	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19142	100.9779	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19142	100.9766	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19919	100.9567	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19813	100.7425	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19423	100.706	SPP-WERE-32
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20095	100.5952	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19423	100.4376	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19076	100.378	SPP-MKEC-08
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19076	100.378	SPP-MKEC-08
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19059	100.3005	SPP-WEPL-03
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19059	100.3005	SPP-WEPL-03
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19059	100.2996	SPP-MKEC-05
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19059	100.2996	SPP-MKEC-05
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18916	100.2078	SPP-SWPS-01
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18914	100.1861	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19221	100.1803	AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19059	100.171	SPP-WEPL-03A
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19059	100.171	SPP-WEPL-03A
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19769	100.1069	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20322	100.084	DBL-WWRD-G12
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19118	100.0731	87th STREET - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19059	100	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19274	99.9	HOOVER NORTH - HOOVERS4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19142	99.9	GEN336821 1-GRAND GULF UNIT
FDNS	03ALL		0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19142	99.9	GEN514806 1-SOONER UNIT 2
FDNS	03ALL		0	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06561	122.5484	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06525	118.3649	BENTON - WICHITA 345KV CKT 1
FDNS	3		0	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06589	105.0729	BENTON - WICHITA 345KV CKT 1
FDNS	3		2	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06552	102.1102	BENTON - WICHITA 345KV CKT 1
FDNS	01ALL		2	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07864	104.0767	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL		0	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07818	103.4052	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL		2	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07032	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		0	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06984	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		2	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07331	101.0705	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL		0	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07279	100.3427	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06561	125.2897	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06525	121.1025	BENTON - WICHITA 345KV CKT 1
FDNS	3		0	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06589	107.8081	BENTON - WICHITA 345KV CKT 1
FDNS	3		2	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06552	104.842	BENTON - WICHITA 345KV CKT 1
FDNS	00G12_023		0	23SP	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06432	101.5934	BENTON - WICHITA 345KV CKT 1
FDNS	08ALL		0	13G	G12_023	FROM->TO	HUNTERS7 345.00 - WOODRING 345KV CKT 1	956	1	104.0791	VIOLA 7 345.00 - WICHITA 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	03ALL		0	13G	G12_023	TO->FROM	MAIZE - MAIZEW 4 138.00 138KV CKT 1	478	0.06561	100.1242	BENTON - WICHITA 345KV CKT 1
FDNS	06ALL		0	13G	G12_023	FROM->TO	TUCXFR345230	300	0.03785	124.2	BASE CASE
FDNS	08ALL		2	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04741	105.5456	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL		0	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04736	105.3074	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G12_023		0	18WP	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04842	101.7517	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL		2	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04741	101.4075	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL		0	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04736	101.2993	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL		0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05036	112.1372	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL		2	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05042	112.0272	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07947	111.8292	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL		0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07947	111.7745	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07916	109.3816	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL		2	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07916	109.2477	BENTON - WICHITA 345KV CKT 1
FDNS	00G12_023		0	18WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05156	108.2282	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL		0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05036	108.1624	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL		2	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05042	108.0623	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G12_023		0	13WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05126	105.1937	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G12_023		0	18WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05156	104.1869	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	0		0	18WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05159	102.4248	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF		0	18WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05164	102.4026	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05658	102.3275	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G12_023		0	13WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05126	101.4978	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05658	101.242	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05651	100.308	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FNSL-Blown up	01ALL		0	13G	G12_024		Non-Converged Contingency	0	0.13645	-	DBL-TGA-MATT
FNSL-Blown up	03ALL		2	13G	G12_024		Non-Converged Contingency	0	0.44189	-	DBL-THIS-CLR
FNSL-Blown up	03ALL		0	13G	G12_024		Non-Converged Contingency	0	0.44097	-	DBL-THIS-CLR
FNSL-Blown up	03ALL		0	13G	G12_024		Non-Converged Contingency	0	0.24005	-	DBL-WICH-THI
FNSL-Blown up	03ALL		2	13G	G12_024		Non-Converged Contingency	0	0.23102	-	DBL-WICH-THI
FNSL-Blown up	03ALL		0	13G	G12_024		Non-Converged Contingency	0	0.16978	-	DBL-MUL-RENO
FNSL-Blown up	03ALL		0	13G	G12_024		Non-Converged Contingency	0	0.16978	-	DBL-SPRVL-MU
FNSL-Blown up	03ALL		2	13G	G12_024		Non-Converged Contingency	0	0.16719	-	DBL-MUL-RENO
FNSL-Blown up	03ALL		2	13G	G12_024		Non-Converged Contingency	0	0.16719	-	DBL-SPRVL-MU
FNSL-Blown up	03ALL		2	13G	G12_024		Non-Converged Contingency	0	0.15539	-	DBL-TGA-MATT
FNSL-Blown up	03ALL		0	13G	G12_024		Non-Converged Contingency	0	0.12882	-	DBL-TGA-MATT
FNSL-Blown up	03ALL		0	13G	G12_024		Non-Converged Contingency	0	0.04908	-	DBL-BVR-WWRD
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1552	127.0334	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15081	123.1511	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17665	119.3636	DBL-TGA-G115
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17662	119.1127	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17665	118.6307	DBL-WWRD-G11
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17662	118.6294	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18736	117.5084	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18736	115.2201	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03G12_024		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15612	111.454	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18035	111.4094	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16367	110.9342	SPP-WERE-91
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16367	110.9338	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16367	110.9304	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16367	110.417	SPP-WERE-90
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16367	110.4161	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16367	110.4146	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16007	109.7297	WRTOD400
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18736	109.6699	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1598	109.1794	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18035	109.1297	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1552	108.5317	BASE CASE
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16514	108.51	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03G12_024		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15169	108.4913	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17135	108.1013	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	3		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15624	107.9265	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16593	107.6723	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19268	107.2433	DBL-G1216-TH
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19268	107.2433	DBL-G1216-TH
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16105	106.7796	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16005	106.6928	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15899	106.6117	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15899	106.6109	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15899	106.6104	SPP-WERE-91
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15899	106.1026	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15899	106.0994	SPP-WERE-90
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15899	106.0993	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15553	105.3781	WRTOD400

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15732	105.3158	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19157	105.1465	DBL-G1216-TH
FDNS	3		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15181	105.0613	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1599	104.977	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15527	104.853	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15732	104.761	SPP-WERE-32
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1634	104.5779	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15732	104.5282	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1605	104.3579	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15081	104.2215	BASE CASE
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16671	103.8473	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18035	103.7211	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15663	103.7087	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15663	103.6267	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15861	103.4122	MINGO - RED WILLOW 345KV CKT 1
FDNS	03G12_024		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17768	103.387	DBL-TGA-MATT
FDNS	03G12_024		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1777	103.3477	DBL-TGA-MATT
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16266	103.2476	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16371	102.9141	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1612	102.7621	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15652	102.7113	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.14523	102.453	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15551	102.4373	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15898	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15898	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15663	101.8449	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15726	101.6248	MINGO - SETAB 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16464	101.5635	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15265	101.4652	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15663	101.3821	SPP-WERE-28
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15966	101.3635	BEAVER CO 345.00 - BUCKNER7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15285	101.1999	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15663	101.1858	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15793	101.0649	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1552	100.9779	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1552	100.9766	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15539	100.9567	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16666	100.7425	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15285	100.706	SPP-WERE-32
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15883	100.5952	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15285	100.4376	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15873	100.378	SPP-MKEC-08
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15879	100.3005	SPP-WEPL-03
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15879	100.2996	SPP-MKEC-05
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15549	100.2078	SPP-SWPS-01
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15547	100.1861	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15743	100.1803	AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15879	100.171	SPP-WEPL-03A
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16554	100.1069	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17313	100.084	DBL-WWRD-G12
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1558	100.0731	87th STREET - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15879	100	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15597	99.9	HOOVER NORTH - HOOVERS4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1552	99.9	GEN336821 1-GRAND GULF UNIT
FDNS	03ALL		0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1552	99.9	GEN514806 1-SOONER UNIT 2
FDNS	03ALL		0	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05526	122.5484	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05349	118.3649	BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024		0	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05552	108.1563	BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024		2	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05373	105.0844	BENTON - WICHITA 345KV CKT 1
FDNS	3		0	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05555	105.0729	BENTON - WICHITA 345KV CKT 1
FDNS	3		2	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05376	102.1102	BENTON - WICHITA 345KV CKT 1
FDNS	01ALL		2	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06955	104.0767	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL		0	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06555	103.4052	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL		2	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06767	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		0	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06471	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		2	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06739	101.0705	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL		0	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06405	100.3427	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	03G12_024		0	13G	G12_024	TO->FROM	CIRCLE - MULLERGRENN 230KV CKT 1	319	0.04528	104.5192	DBL-SPRVL-MU
FDNS	03G12_024		0	13G	G12_024	TO->FROM	CIRCLE - MULLERGRENN 230KV CKT 1	319	0.04528	103.7177	DBL-MUL-RENO
FDNS	03G12_024		2	13G	G12_024	TO->FROM	CIRCLE - MULLERGRENN 230KV CKT 1	319	0.04441	102.3925	DBL-SPRVL-MU
FDNS	03G12_024		2	13G	G12_024	TO->FROM	CIRCLE - MULLERGRENN 230KV CKT 1	319	0.04441	101.3402	DBL-MUL-RENO
FDNS	03G12_024		0	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03158	160.6846	DBL-WICH-THI
FDNS	3		0	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03161	154.4865	DBL-WICH-THI

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	03G12_024		2	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.02996	151.5921	DBL-WICH-THI
FDNS	00G12_024		0	18WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03978	148.5357	DBL-WICH-THI
FDNS	00G12_024		0	13WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04046	146.9336	DBL-WICH-THI
FDNS	3		2	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.02999	145.3937	DBL-WICH-THI
FDNS	01ALL		0	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03189	127.2986	DBL-WICH-THI
FDNS	01ALL		2	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03022	122.2489	DBL-WICH-THI
FDNS	1		0	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03198	116.9616	DBL-WICH-THI
FDNS	00G12_024		0	18SP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04108	115.8244	DBL-WICH-THI
FDNS	1		2	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03032	111.6894	DBL-WICH-THI
FDNS	0		0	18WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03989	109.2488	DBL-WICH-THI
FDNS	00HOSKINSOFF		0	18WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03987	109.1814	DBL-WICH-THI
FDNS	0		0	13WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04057	106.7679	DBL-WICH-THI
FDNS	00HOSKINSOFF		0	13WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04056	106.7433	DBL-WICH-THI
FDNS	00G12_024		0	23SP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03969	106.1101	DBL-WICH-THI
FDNS	03ALL		0	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05526	125.2897	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL		2	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05349	121.1025	BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024		0	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05552	110.8864	BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024		2	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05373	107.8111	BENTON - WICHITA 345KV CKT 1
FDNS	3		0	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05555	107.8081	BENTON - WICHITA 345KV CKT 1
FDNS	3		2	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05376	104.842	BENTON - WICHITA 345KV CKT 1
FDNS	00G12_024		0	23SP	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05215	99.9	BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03158	212.397	DBL-WICH-THI
FDNS	3		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03161	205.2945	DBL-WICH-THI
FDNS	03G12_024		2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.02996	202.0114	DBL-WICH-THI
FDNS	3		2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.02999	194.8982	DBL-WICH-THI
FDNS	01ALL		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03189	174.1733	DBL-WICH-THI
FDNS	01ALL		2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03022	168.3119	DBL-WICH-THI
FDNS	1		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03198	152.5359	DBL-WICH-THI
FDNS	1		2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03032	146.4593	DBL-WICH-THI
FDNS	06ALL		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03175	128.8701	DBL-WICH-THI
FDNS	06ALL		2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03176	126.1369	DBL-WICH-THI
FDNS	6		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03186	121.5236	DBL-WICH-THI
FDNS	07ALL		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03199	120.4334	DBL-WICH-THI
FDNS	07ALL		2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03199	119.4775	DBL-WICH-THI
FDNS	07ALL		3	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03198	119.4556	DBL-WICH-THI
FDNS	6		2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03186	118.966	DBL-WICH-THI
FDNS	7		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03203	115.6077	DBL-WICH-THI
FDNS	7		2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03203	114.2571	DBL-WICH-THI
FDNS	7		3	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03203	114.2339	DBL-WICH-THI
FDNS	09ALL		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03197	103.235	DBL-WICH-THI
FDNS	09ALL_BPSON		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03195	102.2028	DBL-WICH-THI
FDNS	09ALL_BPSON_HO		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03195	102.1674	DBL-WICH-THI
FDNS	9		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03201	102.1625	DBL-WICH-THI
FDNS	09_BPSON		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03198	101.1108	DBL-WICH-THI
FDNS	09_BPSON_HOSKIN		0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03198	101.083	DBL-WICH-THI
FDNS	00NR		0	23SP	G12_024	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.04873	114.8738	DBL-WICH-THI
FDNS	00NR		0	18SP	G12_024	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.05033	110.8186	DBL-WICH-THI
FDNS	00NR		0	13WP	G12_024	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.03585	109.8302	DBL-WICH-THI
FDNS	00NR		0	18WP	G12_024	TO->FROM	FLATRDG3 - THISTLE4 138.00 138KV CKT 1	286	0.04808	106.8895	DBL-WICH-THI
FDNS	03G12_024		0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03158	191.3059	DBL-WICH-THI
FDNS	3		0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03161	184.2612	DBL-WICH-THI
FDNS	03G12_024		2	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.02996	180.9186	DBL-WICH-THI
FDNS	00G12_024		0	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03978	179.5892	DBL-WICH-THI
FDNS	00G12_024		0	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04046	177.4443	DBL-WICH-THI
FDNS	3		2	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.02999	173.8697	DBL-WICH-THI
FDNS	01ALL		0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03189	153.2644	DBL-WICH-THI
FDNS	01ALL		2	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03022	147.4622	DBL-WICH-THI
FDNS	00G12_024		0	18SP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04108	145.5042	DBL-WICH-THI
FDNS	1		0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03198	141.1882	DBL-WICH-THI
FDNS	00G12_024		0	23SP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03969	135.3753	DBL-WICH-THI
FDNS	1		2	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03032	135.1342	DBL-WICH-THI
FDNS	0		0	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03989	134.4913	DBL-WICH-THI
FDNS	00HOSKINSOFF		0	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03987	134.4133	DBL-WICH-THI
FDNS	0		0	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04057	131.305	DBL-WICH-THI
FDNS	00HOSKINSOFF		0	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04056	131.2765	DBL-WICH-THI
FDNS	06ALL		0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03175	117.5265	DBL-WICH-THI
FDNS	06ALL		2	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03176	114.8036	DBL-WICH-THI
FDNS	00G12_024		0	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03366	113.7823	DBL-SPRVL-CL
FDNS	00G12_024		0	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03376	112.4269	DBL-SPRVL-CL
FDNS	6		0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03186	110.1721	DBL-WICH-THI
FDNS	07ALL		0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03199	109.0676	DBL-WICH-THI
FDNS	07ALL		2	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03199	108.1223	DBL-WICH-THI
FDNS	07ALL		3	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03198	108.1002	DBL-WICH-THI

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	6		2 13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03186	107.6239	DBL-WICH-THI	
FDNS	7		0 13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03203	104.229	DBL-WICH-THI	
FDNS	7		2 13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03203	102.8725	DBL-WICH-THI	
FDNS	7		3 13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03203	102.8492	DBL-WICH-THI	
FDNS	0		0 185P	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.0411	101.7094	DBL-WICH-THI	
FDNS	00HOSKINSOFF		0 185P	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.0411	101.6368	DBL-WICH-THI	
FDNS	03ALL		0 13G	G12_024	TO->FROM	MAIZE - MAIZEW 4 138.00 138KV CKT 1	478	0.05526	100.1242	BENTON - WICHITA 345KV CKT 1	
FDNS	03ALL		2 13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06549	135.2791	G12-11T 345.00 - POST ROCK 345KV CKT 1	
FDNS	03ALL		0 13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06633	122.8982	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	03ALL		2 13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06549	119.7037	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	03G12_024		0 13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06664	110.6688	G12-11T 345.00 - POST ROCK 345KV CKT 1	
FDNS	03G12_024		2 13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.0658	108.8314	G12-11T 345.00 - POST ROCK 345KV CKT 1	
FDNS	3		0 13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06635	107.6215	G12-11T 345.00 - POST ROCK 345KV CKT 1	
FDNS	3		2 13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06551	105.8799	G12-11T 345.00 - POST ROCK 345KV CKT 1	
FDNS	03G12_024		0 13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06664	100.2985	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.0373	117.5527	AXTELL - POST ROCK 345KV CKT 1	
FDNS	03ALL		2 13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03669	115.3321	AXTELL - POST ROCK 345KV CKT 1	
FDNS	03G12_024		0 13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.04043	102.9234	DBL-SPRVL-MU	
FDNS	03G12_024		0 13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.04043	102.5522	DBL-MUL-RENO	
FDNS	03G12_024		2 13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03969	101.0578	DBL-SPRVL-MU	
FDNS	03G12_024		2 13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03969	100.6677	DBL-MUL-RENO	
FDNS	03ALL		0 13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05536	111.8292	BENTON - WICHITA 345KV CKT 1	
FDNS	03ALL		0 13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05536	111.7745	BENTON - WICHITA 345KV CKT 1	
FDNS	03ALL		2 13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05378	109.3816	BENTON - WICHITA 345KV CKT 1	
FDNS	03ALL		2 13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05378	109.2477	BENTON - WICHITA 345KV CKT 1	
FDNS	03ALL		0 13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.03222	102.3275	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	03G12_024		0 13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05584	101.7768	BENTON - WICHITA 345KV CKT 1	
FDNS	03ALL		0 13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.03222	101.242	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	03G12_024		0 13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05584	100.8305	BENTON - WICHITA 345KV CKT 1	
FDNS	03ALL		2 13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.03149	100.308	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	08ALL		0 13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48383	113.6613	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	08ALL		0 13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48383	113.3142	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	08ALL		0 13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48383	111.0038	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	08ALL		0 13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48383	109.9322	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	01ALL		2 13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03848	104.0767	GRACEMONT - MINCO 345KV CKT 1	
FDNS	01ALL		0 13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04007	103.4052	GRACEMONT - MINCO 345KV CKT 1	
FDNS	01ALL		2 13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03379	101.0705	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	01ALL		0 13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03495	100.3427	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00G12_027		0 235P	G12_027	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	0.11963	115.2221	FAIRFAX - FAXTAP4 138.00 138KV CKT 1	
FDNS	00G12_027		0 185P	G12_027	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	0.11962	110.4161	FAIRFAX - PAWNSW4 138.00 138KV CKT 1	
FDNS	08ALL		0 13G	G12_027	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	0.11312	103.4665	FAIRFAX - PAWNSW4 138.00 138KV CKT 1	
FDNS	08G12_027		0 13G	G12_027	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	0.11312	100.2981	FAIRFAX - PAWNSW4 138.00 138KV CKT 1	
FDNS	06ALL		0 13G	G12_027	FROM->TO	TUCXFR345230	300	0.04273	124.2	BASE CASE	
FNSL-Blown up	03ALL		0 13G	G12_028		Non-Converged Contingency	0	0.07023	-	DBL-WICH-THI	
FNSL-Blown up	03ALL		2 13G	G12_028		Non-Converged Contingency	0	0.06975	-	DBL-WICH-THI	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03099	119.3636	DBL-TGA-G115	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03097	119.1127	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03099	118.6307	DBL-WWRD-G11	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03097	118.6294	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03042	110.9342	SPP-WERE-91	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03042	110.9338	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03042	110.9304	MAIZE - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03042	110.417	SPP-WERE-90	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03042	110.4161	MAIZE - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03042	110.4146	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0309	109.7297	WRTOD400	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03083	109.1794	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03272	108.51	SWISSVALE - WEST GARDNER 345KV CKT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04277	108.1013	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1	
FDNS	3		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03091	107.9265	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03291	107.6723	AXTELL - POST ROCK 345KV CKT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03215	106.7796	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03101	106.6928	HOYT - STRANGER CREEK 345KV CKT 1	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0302	106.6117	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0302	106.6109	MAIZE - MAIZEW 4 138.00 138KV CKT 1	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0302	106.6104	SPP-WERE-91	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0302	106.1026	MAIZE - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0302	106.0994	SPP-WERE-90	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0302	106.0993	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03068	105.3781	WRTOD400	
FDNS	3		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03067	105.0613	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1	
FDNS	03ALL		0 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0317	104.977	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	03ALL		2 13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03061	104.853	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03408	104.5779	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03251	104.3579	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04251	103.8473	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0318	103.4122	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03158	103.2476	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03422	102.9141	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL		2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03264	102.7621	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03195	102.7113	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03079	102.4373	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03007	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03007	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03123	101.6248	MINGO - SETAB 345KV CKT 1
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03414	101.5635	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL		2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03132	101.0649	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	03ALL		2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0315	100.9567	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03384	100.5952	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03095	100.378	SPP-MKEC-08
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03077	100.3005	SPP-WEPL-03
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03077	100.2996	SPP-MKEC-05
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03064	100.1803	AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03077	100.171	SPP-WEPL-03A
FDNS	03ALL		0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03077	100	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	118.4154	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04402	118.2234	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	117.9092	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04389	117.7797	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04402	117.7192	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04389	117.2764	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	117.1388	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04402	116.9519	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04389	116.5103	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	116.2579	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04402	116.0744	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04389	115.6338	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	114.6398	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04402	114.4626	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04389	114.024	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	113.0233	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04402	112.8523	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	112.457	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04389	112.4167	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04402	112.289	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04389	111.8535	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.05493	110.268	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.05506	110.0338	SPP-SWPS-03
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.05485	109.8111	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.05499	109.5851	SPP-SWPS-03
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.05471	109.4542	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.05484	109.2255	SPP-SWPS-03
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.0427	106.0553	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.0427	105.9921	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04269	105.9712	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04948	102.3002	MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04948	102.2905	MOORELAND - NINE MILE 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04943	101.9198	MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04943	101.9115	MOORELAND - NINE MILE 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.0493	101.5753	MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.0493	101.567	MOORELAND - NINE MILE 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04078	100.5831	DBL-TGA-MATT
FDNS	07ALL		3	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04069	100.2953	DBL-TGA-MATT
FDNS	07ALL		0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.0408	100.2773	DBL-TGA-MATT
FDNS	01ALL		0	13G	G12_028	FROM->TO	CANTON - OKEENE 69KV CKT 1	48	0.04577	105.7856	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL		0	13G	G12_028	FROM->TO	CANTON - OKEENE 69KV CKT 1	48	0.04577	104.1921	CEDARDALE - OKEENE 138KV CKT 1
FDNS	01ALL		2	13G	G12_028	FROM->TO	CANTON - OKEENE 69KV CKT 1	48	0.04573	103.484	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL		2	13G	G12_028	FROM->TO	CANTON - OKEENE 69KV CKT 1	48	0.04573	101.9366	CEDARDALE - OKEENE 138KV CKT 1
FDNS	01ALL		0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04577	137.1878	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL		0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04577	135.2475	CEDARDALE - OKEENE 138KV CKT 1
FDNS	01ALL		2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04573	134.3321	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL		2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04573	132.4508	CEDARDALE - OKEENE 138KV CKT 1
FDNS	1		0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04741	120.9663	DBL-TGA-MATT
FDNS	1		2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04741	120.4792	DBL-TGA-MATT
FDNS	03ALL		0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04552	119.5934	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	03ALL		0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04552	117.8832	CEDARDALE - OKEENE 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	1	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04574	116.0785		CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04893	115.8979		DEWEY - SOUTHARD 138KV CKT 1
FDNS	1	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04574	114.3629		CEDARDALE - OKEENE 138KV CKT 1
FDNS	1	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.0457	114.2569		CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04893	113.5978		ROMAN NOSE - SOUTHARD 138KV CKT 1
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04886	113.5758		DEWEY - SOUTHARD 138KV CKT 1
FDNS	1	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.0457	112.5687		CEDARDALE - OKEENE 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04745	112.5574		DBL-WWRD-G12
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04811	112.5374		DBL-G1216-TH
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04893	112.1382		EL RENO - ROMAN NOSE 138KV CKT 1
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04886	111.3588		ROMAN NOSE - SOUTHARD 138KV CKT 1
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04886	109.9529		EL RENO - ROMAN NOSE 138KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04551	109.3992		CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04729	108.919		BASE CASE
FDNS	03ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04551	107.7181		CEDARDALE - OKEENE 138KV CKT 1
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04725	107.3921		BASE CASE
FDNS	03ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04722	107.2949		G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04722	107.2628		DBL-TGA-G115
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04796	107.074		DBL-G1216-TH
FDNS	03ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04722	106.6217		DBL-WWRD-G11
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.03427	106.6164		OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04722	106.6156		G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04556	106.3989		CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04768	105.9685		DBL-WICH-THI
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.03424	105.6419		OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	3	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04556	104.7357		CEDARDALE - OKEENE 138KV CKT 1
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.0476	102.8027		DBL-WICH-THI
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04676	102.2046		ALVA - CHEROKEE SW 69KV CKT 1
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04729	100.9771		MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04729	100.9771		MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04673	100.8979		ALVA - CHEROKEE SW 69KV CKT 1
FDNS	01ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04739	100.6709		DBL-WWRD-G12
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04735	100.2938		KNOBHILL - MOORELAND 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04735	100.2785		KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1
FDNS	07ALL	3	13G	G12_028	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.04573	100		GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	01ALL	2	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07233	102.9427		LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	0	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07197	102.2572		LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	2	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04693	101.0705		ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL	0	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04658	100.3427		ARCADIA - SEMINOLE 345KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.04022	120.6399		SPP-SWPS-03
FDNS	07ALL	0	13G	G12_028	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.04056	120.1188		GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07G12_028	0	13G	G12_028	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.04056	103.309		SPP-SWPS-02
FDNS	07G12_028	0	13G	G12_028	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.04056	103.307		STLN-DEMARC6 - SWEETWATER 230KV CKT 1
FDNS	07G12_028	0	13G	G12_028	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.04056	103.2992		STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.03106	102.3321		CLINTON JUNCTION - ELK CITY 138KV CKT 1
FDNS	7	0	13G	G12_028	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.04057	101.6129		SPP-SWPS-02
FDNS	7	0	13G	G12_028	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.04057	101.6113		STLN-DEMARC6 - SWEETWATER 230KV CKT 1
FDNS	7	0	13G	G12_028	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.04057	101.603		STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	GRACMNT4 138.00 - WASHITA 138KV CKT 1	228	0.11198	100.8111		SOUTHWESTERN STATION - WASHITA 138KV CKT 1
FDNS	07ALL	2	13G	G12_028	TO->FROM	GRACMNT4 138.00 - WASHITA 138KV CKT 1	228	0.11196	100.797		SOUTHWESTERN STATION - WASHITA 138KV CKT 1
FDNS	07ALL	3	13G	G12_028	TO->FROM	GRACMNT4 138.00 - WASHITA 138KV CKT 1	228	0.1119	100.6022		SOUTHWESTERN STATION - WASHITA 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04278	107.8702		GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	2	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04274	107.5599		GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	3	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04265	107.1934		GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04278	104.3371		GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	2	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04274	104.09		GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	3	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04265	103.7543		GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	111.1081		CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL	2	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04402	110.9361		CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	110.6606		CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL	3	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04389	110.5394		CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL	2	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04402	110.4901		CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL	3	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04389	110.0942		CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	109.983		HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL	2	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04402	109.8149		HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL	3	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04389	109.42		HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	109.2109		HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL	2	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04402	109.0455		HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL	3	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04389	108.6516		HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	107.7828		BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL	2	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04402	107.6224		BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL	3	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04389	107.2301		BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	106.3496		BINGER NIJECT - ONEY 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	07ALL		2 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04402	106.1943	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	105.8496	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04389	105.8023	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04402	105.6945	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04389	105.305	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.05493	103.5968	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.05506	103.3905	SPP-SWPS-03	
FDNS	07ALL		2 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.05485	103.1714	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.05499	102.9839	SPP-SWPS-03	
FDNS	07ALL		3 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.05471	102.8587	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.05484	102.6658	SPP-SWPS-03	
FDNS	07ALL		0 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.0427	99.9	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.0427	99.9	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05773	105.7918	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05771	105.66	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05773	105.3386	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05759	105.2925	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05771	105.2093	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05759	104.8426	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05773	104.6439	HYDRO - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05771	104.5185	HYDRO - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05759	104.1528	HYDRO - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05773	103.8444	HYDRO - SICKLES 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05771	103.7234	HYDRO - SICKLES 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05759	103.3586	HYDRO - SICKLES 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05773	102.3868	BINGER NIJECT - SICKLES 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05771	102.2738	BINGER NIJECT - SICKLES 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05759	101.9107	BINGER NIJECT - SICKLES 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05773	100.9393	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05771	100.8342	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05759	100.4738	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05773	100.4309	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05771	100.3294	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.06824	100.0862	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		3 13G	G12_028	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.05759	100	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.15831	100.773	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.1583	100.6393	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.1581	99.9	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	
FDNS	06ALL		0 13G	G12_028	FROM->TO	TUCXFR345230	300	0.03496	124.2	BASE CASE	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	115.9814	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04402	115.8096	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	115.5309	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04389	115.4107	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04402	115.3606	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04389	114.9625	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	114.8476	HYDRO - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04402	114.6797	HYDRO - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04389	114.2827	HYDRO - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	114.068	HYDRO - SICKLES 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04402	113.9029	HYDRO - SICKLES 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04389	113.5068	HYDRO - SICKLES 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	112.6295	BINGER NIJECT - SICKLES 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04402	112.4694	BINGER NIJECT - SICKLES 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04389	112.0751	BINGER NIJECT - SICKLES 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	111.1881	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04402	111.0331	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	110.6846	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04389	110.6393	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04402	110.5302	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04389	110.1386	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.05493	108.5192	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.05506	108.311	SPP-SWPS-03	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.05485	108.0873	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.05499	107.9009	SPP-SWPS-03	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.05471	107.7714	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.05484	107.5785	SPP-SWPS-03	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.0427	104.7921	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.0427	104.736	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	07ALL		3 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04269	104.7176	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04948	101.493	MOREWOOD SW - NINE MILE 138KV CKT 1	
FDNS	07ALL		0 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04948	101.4867	MOORELAND - NINE MILE 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04943	101.1546	MOREWOOD SW - NINE MILE 138KV CKT 1	
FDNS	07ALL		2 13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04943	101.1493	MOORELAND - NINE MILE 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	07ALL		3	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.0493	100.8478	MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	07ALL		3	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.0493	100.8425	MOORELAND - NINE MILE 138KV CKT 1
FDNS	07ALL		2	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04078	100.1197	DBL-TGA-MATT
FDNS	07ALL		3	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04069	99.9	DBL-TGA-MATT
FNSL-Blown up	03ALL		0	13G	G12_029		Non-Converged Contingency	0	0.06944	-	DBL-WICH-THI
FNSL-Blown up	03ALL		2	13G	G12_029		Non-Converged Contingency	0	0.06918	-	DBL-WICH-THI
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03065	127.0334	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03055	123.1511	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03125	119.3636	DBL-TGA-G115
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03123	119.1127	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03125	118.6307	DBL-WWRD-G11
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03123	118.6294	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03127	110.9342	SPP-WERE-91
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03127	110.9338	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03127	110.9304	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03127	110.417	SPP-WERE-90
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03127	110.4161	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03127	110.4146	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03168	109.7297	WRTOD400
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03161	109.1794	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03065	108.5317	BASE CASE
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03352	108.51	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04328	108.1013	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	3		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03169	107.9265	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0337	107.6723	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03295	106.7796	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03179	106.6928	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03117	106.6117	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03117	106.6109	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03117	106.6104	SPP-WERE-91
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03117	106.1026	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03117	106.0994	SPP-WERE-90
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03117	106.0993	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03157	105.3781	WRTOD400
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03063	105.3158	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	3		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03155	105.0613	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03249	104.977	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0315	104.853	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03063	104.761	SPP-WERE-32
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03482	104.5779	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03063	104.5282	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03342	104.3579	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03055	104.2215	BASE CASE
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04312	103.8473	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03057	103.7087	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03057	103.6267	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0328	103.4122	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0324	103.2476	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03498	102.9141	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03355	102.7621	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03285	102.7113	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03169	102.4373	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03075	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03075	102.3134	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03057	101.8449	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03219	101.6248	MINGO - SETAB 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03496	101.5635	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03057	101.3821	SPP-WERE-28
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03053	101.1999	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03057	101.1858	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03224	101.0649	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03065	100.9779	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03065	100.9766	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0324	100.9567	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03053	100.706	SPP-WERE-32
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03469	100.5952	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL		2	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03053	100.4376	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03171	100.378	SPP-MKEC-08
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03155	100.3005	SPP-WEPL-03
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03155	100.2996	SPP-MKEC-05
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03145	100.1803	AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03155	100.171	SPP-WEPL-03A
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03041	100.0731	87th STREET - STRANGER CREEK 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03155	100	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03065	99.9	GEN336821 1-GRAND GULF UNIT
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03065	99.9	GEN514806 1-SOONER UNIT 2
FDNS	03ALL		0	13G	G12_029	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03061	99.9	HOOVER NORTH - HOOVERS4 138.00 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11346	118.4154	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11236	118.2234	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11346	117.9092	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.1112	117.7797	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11236	117.7192	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.1112	117.2764	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11346	117.1388	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11236	116.9519	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.1112	116.5103	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11346	116.2579	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11236	116.0744	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.1112	115.6338	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11346	114.6398	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11236	114.4626	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.1112	114.024	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11346	113.0233	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11236	112.8523	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11346	112.457	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.1112	112.4167	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11236	112.289	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.1112	111.8535	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11944	110.268	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11961	110.0338	SPP-SWPS-03
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11838	109.8111	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11856	109.5851	SPP-SWPS-03
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11738	109.4542	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11756	109.2255	SPP-SWPS-03
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.16869	106.0553	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.16869	105.9921	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.16869	105.9712	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11287	102.3002	MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11287	102.2905	MOORELAND - NINE MILE 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11191	101.9198	MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11191	101.9115	MOORELAND - NINE MILE 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11096	101.5753	MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.11096	101.567	MOORELAND - NINE MILE 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.08931	100.5831	DBL-TGA-MATT
FDNS	07ALL		3	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.08859	100.2953	DBL-TGA-MATT
FDNS	07ALL		0	13G	G12_029	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.09004	100.2773	DBL-TGA-MATT
FDNS	07ALL		2	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.35168	111.1347	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.34903	110.4119	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.35168	108.1779	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.34903	107.4062	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.35168	105.284	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.34903	104.4732	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.35168	102.3664	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	CARNEGIE - HOBART JUNCTION 138KV CKT 1	169	0.34903	101.5176	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36055	113.4725	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36055	113.4725	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36055	110.3581	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36055	110.3581	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.35168	108.8207	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.34903	108.0896	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36055	107.2932	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36055	107.2932	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.35168	105.8552	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.34903	105.0766	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36055	104.2064	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36055	104.2064	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.35168	102.9631	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36051	102.9289	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.34903	102.145	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.35168	100	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.31702	100	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.31702	100	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	169	0.36051	100	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	01ALL		2	13G	G12_029	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07666	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		0	13G	G12_029	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07636	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL		2	13G	G12_029	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04772	101.0705	ARCADIA - SEMINOLE 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	07G12_029		0	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03885	114.9322	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03854	114.8152	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03823	114.5602	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	7		2	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03853	112.421	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	7		0	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03885	112.292	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	7		3	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03822	112.1865	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03885	110.3614	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03854	110.2458	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03823	109.9939	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	7		2	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03853	106.5501	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	7		0	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03885	106.3661	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	7		3	13G	G12_029	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.03822	106.2621	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03884	111.6101	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03853	111.5693	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03822	111.3856	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03884	110.7434	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03853	110.703	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03822	110.5122	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03884	108.1305	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03853	108.0131	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03822	107.8273	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03884	107.0454	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03853	106.9207	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1	92	0.03822	106.7295	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.03958	105.7884	JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.03958	105.7751	OGE3TERM10
FDNS	07ALL		2	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.0392	105.6038	JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.0392	105.5914	OGE3TERM10
FDNS	07ALL		3	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.03882	105.3108	JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.03882	105.2984	OGE3TERM10
FDNS	07ALL		0	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.03958	101.6911	JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.03958	101.6802	OGE3TERM10
FDNS	07ALL		2	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.0392	101.5029	JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.0392	101.4929	OGE3TERM10
FDNS	07ALL		3	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.03882	101.2296	JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	EL RENO SW (EL RENO) 138/69/13.8KV TRANSFORMER CKT 1	70	0.03882	101.2194	OGE3TERM10
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.57154	120.6399	SPP-SWPS-03
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.57198	120.1188	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.51709	114.6031	GEN560290 1-G08-23 0.5750
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.53381	105.6257	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.53381	104.6421	HINTON - WEATHERFORD JCT. 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.53381	104.2757	Canadian Pump Station - HINTON 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.57197	103.4047	SPP-SWPS-02
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.55465	103.2521	MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.55465	103.2373	MOORELAND - NINE MILE 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.53381	103.1017	Canadian Pump Station - JENSEN ROAD 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.53163	102.8038	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.53163	102.4894	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.56936	102.3321	CLINTON JUNCTION - ELK CITY 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.53163	102.0155	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	7		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.57198	101.6129	SPP-SWPS-02
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.53163	101.4801	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	189	0.53163	100.492	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	GRACMNT4 138.00 - WASHITA 138KV CKT 1	228	0.03948	100.8111	SOUTHWESTERN STATION - WASHITA 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	GRACMNT4 138.00 - WASHITA 138KV CKT 1	228	0.03905	100.797	SOUTHWESTERN STATION - WASHITA 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	GRACMNT4 138.00 - WASHITA 138KV CKT 1	228	0.03857	100.6022	SOUTHWESTERN STATION - WASHITA 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.09408	107.8702	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.09312	107.5599	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.09244	107.1934	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.09408	104.3371	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.09312	104.09	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.09244	103.7543	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11346	111.1081	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11236	110.9361	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11346	110.6606	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.1112	110.5394	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11236	110.4901	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.1112	110.0942	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11346	109.983	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11236	109.8149	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.1112	109.42	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11346	109.2109	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11236	109.0455	HYDRO - SICKLES 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	07ALL		3	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.1112	108.6516	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11346	107.7828	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11236	107.6224	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.1112	107.2301	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11346	106.3496	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11236	106.1943	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11346	105.8496	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.1112	105.8023	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11236	105.6945	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.1112	105.305	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11944	103.5968	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11961	103.3905	SPP-SWPS-03
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11838	103.1714	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11856	102.9839	SPP-SWPS-03
FDNS	07ALL		3	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11738	102.8587	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.11756	102.6658	SPP-SWPS-03
FDNS	07ALL		0	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.16869	99.9	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.16869	99.9	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09692	134.2367	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	133.5103	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	131.1246	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09692	128.893	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	128.1283	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	125.8714	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09692	123.6604	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09691	123.0057	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	122.8703	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	122.5463	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	120.7021	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	120.0866	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09692	118.4303	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	117.606	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	116.5524	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09691	116.5411	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	115.5506	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	113.6588	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	7		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09691	111.431	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09691	111.2915	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	110.772	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09212	110.7074	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09212	110.7072	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	7		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	110.4923	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09153	110.2312	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09212	109.7584	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09212	109.7462	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09153	109.2549	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	7		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	108.7771	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	108.4839	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	7		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09691	106.1521	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09691	106.045	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	105.5135	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	7		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09615	105.1816	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	103.3188	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	7		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09496	103.0454	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09211	100.5014	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09211	100.4164	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	HOBART - ROOSEVELT TAP 69KV CKT 1	43	0.09152	100.223	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09642	110.6044	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09519	110.1972	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09376	109.5368	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09642	108.4427	HINTON - WEATHERFORD JCT. 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09519	108.0601	HINTON - WEATHERFORD JCT. 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09642	107.6457	Canadian Pump Station - HINTON 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09376	107.4605	HINTON - WEATHERFORD JCT. 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09519	107.3673	Canadian Pump Station - HINTON 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09376	106.6692	Canadian Pump Station - HINTON 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09642	105.0122	Canadian Pump Station - JENSEN ROAD 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09519	104.6377	Canadian Pump Station - JENSEN ROAD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	TO->FROM	HYDRO - WEATHERFORD 138KV CKT 1	179	0.09376	104.0563	Canadian Pump Station - JENSEN ROAD 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.11105	105.7918	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.1101	105.66	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.11105	105.3386	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.10911	105.2925	CLINTON - G07-32T 138.00 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	07ALL		2	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.1101	105.2093	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.10911	104.8426	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.11105	104.6439	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.1101	104.5185	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.10911	104.1528	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.11105	103.8444	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.1101	103.7234	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.10911	103.3586	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.11105	102.3868	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.1101	102.2738	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.10911	101.9107	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.11105	100.9393	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.1101	100.8342	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.10911	100.4738	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.11105	100.4309	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.1101	100.3294	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.11822	100.0862	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	JENSEN ROAD - JENSEN TAP 138KV CKT 1	191	0.10911	100	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09692	133.0692	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	132.331	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	129.9491	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09692	127.7237	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	126.96	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	124.7057	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09692	122.4996	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09691	121.8371	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	121.711	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	121.3785	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	119.5206	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	118.9214	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09692	117.2794	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	116.4353	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	115.5709	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09691	115.3675	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	114.3855	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	112.4891	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	7		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09691	110.2735	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09691	110.1265	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	109.6082	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09212	109.5319	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09212	109.5318	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	7		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	109.3361	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09153	109.0561	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09212	108.5779	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09212	108.5715	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09153	108.0803	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	7		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	107.6234	HOBART JUNCTION - OMPA-ALTUS TAMARACK 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	107.3036	OMPA-ALTUS PARK - OMPVET 138KV CKT 1
FDNS	7		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09691	105.0022	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09691	104.8732	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	104.359	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	7		0	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09615	104.0333	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	102.1527	ALTUS JUNCTION - OMPA-ALTUS PARK 138KV CKT 1
FDNS	7		3	13G	G12_029	FROM->TO	ROOSEVELT TAP - SNYDER 69KV CKT 1	43	0.09496	101.8881	OMPA-ALTUS TAMARACK - OMPVET 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03884	165.9044	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03853	165.6615	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03822	165.2236	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03884	158.1456	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		2	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03853	157.9615	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		3	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03822	157.5254	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03885	137.2539	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03854	137.0333	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03823	136.6165	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	7		2	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03853	133.2299	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	7		0	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03885	133.0381	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	7		3	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03822	132.8446	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07G12_029		0	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03885	129.4941	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07G12_029		2	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03854	129.2762	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07G12_029		3	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03823	128.8634	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	7		2	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03853	125.8868	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	7		0	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03885	125.644	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	7		3	13G	G12_029	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.03822	125.4602	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		0	13G	G12_029	FROM->TO	WEATHERFORD - WEATHERFORD SOUTHEAST 69KV CKT 1	69	0.03884	103.8256	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	07ALL		2 13G	G12_029	FROM->TO	WEATHERFORD - WEATHERFORD SOUTHEAST 69KV CKT 1	69	0.03853	103.6404	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	FROM->TO	WEATHERFORD - WEATHERFORD SOUTHEAST 69KV CKT 1	69	0.03822	103.3409	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11346	115.9814	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11236	115.8096	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11346	115.5309	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.1112	115.4107	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11236	115.3606	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.1112	114.9625	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11346	114.8476	HYDRO - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11236	114.6797	HYDRO - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.1112	114.2827	HYDRO - WEATHERFORD 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11346	114.068	HYDRO - SICKLES 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11236	113.9029	HYDRO - SICKLES 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.1112	113.5068	HYDRO - SICKLES 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11346	112.6295	BINGER NIJECT - SICKLES 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11236	112.4694	BINGER NIJECT - SICKLES 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.1112	112.0751	BINGER NIJECT - SICKLES 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11346	111.1881	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11236	111.0331	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11346	110.6846	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.1112	110.6393	BINGER NIJECT - ONEY 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11236	110.5302	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.1112	110.1386	ONEY - WASHITA 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11944	108.5192	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11961	108.311	SPP-SWPS-03	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11838	108.0873	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11856	107.9009	SPP-SWPS-03	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11738	107.7714	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11756	107.5785	SPP-SWPS-03	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.16869	104.7921	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.16869	104.736	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.16869	104.7176	G12-029 138.00 - HOBART JUNCTION 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11287	101.493	MOREWOOD SW - NINE MILE 138KV CKT 1	
FDNS	07ALL		0 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11287	101.4867	MOORELAND - NINE MILE 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11191	101.1546	MOREWOOD SW - NINE MILE 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11191	101.1493	MOORELAND - NINE MILE 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11096	100.8478	MOREWOOD SW - NINE MILE 138KV CKT 1	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.11096	100.8425	MOORELAND - NINE MILE 138KV CKT 1	
FDNS	07ALL		2 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.08931	100.1197	DBL-TGA-MATT	
FDNS	07ALL		3 13G	G12_029	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.08859	99.9	DBL-TGA-MATT	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19094	112.8055	DBL-WICH-THI	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19241	110.8741	DBL-G1216-TH	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18996	109.8905	OGE3TERM14	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18998	109.7766	OGE3TERM12	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19002	109.613	DBL-MUL-RENO	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19178	109.5468	DBL-WWRD-G12	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18962	109.4602	SPP-SWPS-01	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19002	109.4503	DBL-SPRVL-MU	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1901	109.4162	DBL-G1211-PT	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18966	109.2673	OGE3TERM47	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19004	109.2136	WRTOD400	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19208	109.0041	DBL-WICH-THI	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19098	108.9865	OGE3TERM18	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18961	108.9572	A222	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19	108.8506	OGE3TERM17	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19109	108.8331	OGE3TERM11	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19009	108.8132	OGE3TERM20	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19002	108.5962	OGE3TERM13	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18996	108.5854	OGE3TERM19	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18992	108.341	AI43	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	108.3209	OGE3TERM3	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18993	108.2436	OGE3TERM28	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18991	108.2176	GRDA-OPGD-05	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19008	108.126	SPP-AEPW-35	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1899	108.0895	ATC_B2_8E2	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18986	108.0825	CELE-WELLOP2	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19329	107.6132	DBL-G1216-TH	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18897	107.1704	OGE3TERM36	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18987	107.1253	LES0001	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18993	107.0854	OGE3TERM33	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18978	106.8447	SPP-AEPW-04	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19139	106.7062	OGE3TERM14	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1914	106.5993	OGE3TERM12	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18995	106.5003	DBL-THIS-CLR	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18969	106.4558	DBL-WICH-THI	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19272	106.4237	DBL-WWRD-G12	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19009	106.2878	OGE3TERM22	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1915	106.1694	DBL-G1211-PT	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19141	106.1144	DBL-MUL-RENO	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19111	106.0918	OGE3TERM47	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19145	106.0007	WRTOD400	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19141	106.0003	DBL-SPRVL-MU	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19241	105.7776	OGE3TERM18	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19104	105.7714	A222	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19143	105.6667	OGE3TERM17	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19255	105.6205	OGE3TERM11	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19153	105.6151	OGE3TERM20	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19103	105.5934	SPP-SWPS-01	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19145	105.4141	OGE3TERM13	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19139	105.4057	OGE3TERM19	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19135	105.1494	AI43	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1913	105.1381	OGE3TERM3	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18986	105.1201	SPP-WERE-07C	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19136	105.0645	OGE3TERM28	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19134	105.0482	GRDA-OPGD-05	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1915	104.9642	SPP-AEPW-35	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19129	104.9006	CELE-WELLOP2	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19132	104.8951	ATC_B2_8E2	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18831	104.758	OGE3TERM23	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19114	104.5604	DBL-G1216-TH	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18874	104.4732	OGE3TERM14	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19103	104.3183	SPP-AEPW-32	
FDNS	01ALL		2 13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20497	104.0767	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18873	104.074	OGE3TERM12	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19086	104.0717	DBL-BVR-WWRD	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19135	103.9181	OGE3TERM33	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18843	103.6987	SPP-SWPS-01	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18879	103.6824	DBL-MUL-RENO	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19121	103.6734	SPP-AEPW-04	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18879	103.5482	DBL-SPRVL-MU	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18887	103.47	DBL-G1211-PT	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19137	103.4205	DBL-THIS-CLR	
FDNS	01ALL		0 13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20938	103.4052	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18849	103.3552	OGE3TERM47	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19047	103.3549	DBL-WWRD-G12	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1888	103.2692	WRTOD400	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19013	103.2357	OGE3TERM11	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19151	103.1081	OGE3TERM22	
FDNS	01ALL		2 13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18388	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18875	102.929	OGE3TERM17	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18835	102.8438	A222	
FDNS	00NR		0 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19075	102.7744	DBL-WICH-THI	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18873	102.7663	OGE3TERM20	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18872	102.7008	OGE3TERM19	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18877	102.6835	OGE3TERM13	
FDNS	00NR		0 13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20199	102.6045	DBL-WICH-THI	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18928	102.5665	OGE3TERM18	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18867	102.4366	GRDA-OPGD-05	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18884	102.4019	SPP-AEPW-35	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18869	102.3571	AI43	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18873	102.3328	OGE3TERM28	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	102.3172	OGE3TERM3	
FDNS	01ALL		0 13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18668	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19127	101.9656	SPP-WERE-07C	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19204	101.6697	DBL-BVR-WWRD	
FDNS	00NR		0 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18974	101.5685	OGE3TERM23	
FDNS	00NR		0 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19195	101.4599	DBL-G1216-TH	
FDNS	00NR		0 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19008	101.4156	OGE3TERM14	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18819	101.3127	SPP-AEPW-01	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1887	101.1772	OGE3TERM33	
FDNS	00NR		2 13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20197	101.1284	DBL-WICH-THI	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18864	101.1255	LES0001	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18875	101.1253	KCPL-MSL#03	
FDNS	00NR		2 18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18875	101.1253	MTGY-OVER-5	
FDNS	00NR		2 13WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19073	101.1095	OGE3TERM21	
FDNS	01ALL		2 13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18169	101.0705	ARCADIA - SEMINOLE 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19006	101.0528	OGE3TERM12	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20088	101.0415	OGE3TERM12	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18865	101.0171	SPP-SWPS-02A	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18851	101.0051	SPP-AEPW-04	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.2012	100.8258	OGE3TERM14	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18871	100.5495	DBL-THIS-CLR	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20091	100.4395	WRTOD400	
FDNS	00NR	2	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18901	100.4137	OGE3TERM22	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19134	100.3671	DBL-WWRD-G12	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19018	100.356	DBL-G1211-PT	
FDNS	01ALL	0	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18491	100.3427	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19008	100.3298	DBL-MUL-RENO	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18983	100.3099	OGE3TERM47	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19008	100.224	DBL-SPRVL-MU	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19012	100.1991	WRTOD400	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18973	100.1537	SPP-SWPS-01	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1915	100.1442	OGE3TERM11	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20341	100.0775	DBL-G1216-TH	
FDNS	00NR	0	13SP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20071	99.9	OGE3TERM47	
FDNS	00NR	0	18WP	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.19009	99.9	OGE3TERM17	
FDNS	06ALL	0	13G	G12_031	FROM->TO	TUCXFR345230	300	0.0471	124.2	BASE CASE	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06653	109.0041	DBL-WICH-THI	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0663	108.6725	DBL-WICH-THI	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0652	107.6132	DBL-G1216-TH	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06497	107.2854	DBL-G1216-TH	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06828	106.7062	OGE3TERM14	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06812	106.5993	OGE3TERM12	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0663	106.4237	DBL-WWRD-G12	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06805	106.3812	OGE3TERM14	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06789	106.2763	OGE3TERM12	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06818	106.1694	DBL-G1211-PT	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06607	106.1222	DBL-WWRD-G12	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06787	106.1144	DBL-MUL-RENO	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0682	106.0918	OGE3TERM47	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06832	106.0007	WRTOD400	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06787	106.0003	DBL-SPRVL-MU	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06795	105.8385	DBL-G1211-PT	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06764	105.7907	DBL-MUL-RENO	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06875	105.7776	OGE3TERM18	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06814	105.7714	A222	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06797	105.7612	OGE3TERM47	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06764	105.6778	DBL-SPRVL-MU	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06809	105.6688	WRTOD400	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06819	105.6667	OGE3TERM17	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06867	105.6205	OGE3TERM11	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06856	105.6151	OGE3TERM20	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06864	105.5934	SPP-SWPS-01	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06852	105.4608	OGE3TERM18	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06791	105.45	A222	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06816	105.4141	OGE3TERM13	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06812	105.4057	OGE3TERM19	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06796	105.3427	OGE3TERM17	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06845	105.2949	OGE3TERM11	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06833	105.289	OGE3TERM20	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06841	105.2593	SPP-SWPS-01	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06821	105.1494	AI43	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06807	105.1381	OGE3TERM3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06793	105.0913	OGE3TERM13	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06789	105.0831	OGE3TERM19	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06809	105.0645	OGE3TERM28	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06814	105.0482	GRDA-OPGD-05	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06882	104.9642	SPP-AEPW-35	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06811	104.9006	CELE-WELLOP2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06812	104.8951	ATC_B2_8E2	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06798	104.8242	AI43	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06785	104.8139	OGE3TERM3	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06787	104.7426	OGE3TERM28	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06791	104.7267	GRDA-OPGD-05	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06855	104.6322	SPP-AEPW-35	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06789	104.5785	CELE-WELLOP2	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06864	104.3183	SPP-AEPW-32	
FDNS	01ALL	2	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06753	104.0767	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06841	103.9865	SPP-AEPW-32	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06823	103.9181	OGE3TERM33	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0679	103.8554	SPP-SWPS-02A	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0681	103.6734	SPP-AEPW-04	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.068	103.5972	OGE3TERM33	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06819	103.4205	DBL-THIS-CLR	
FDNS	01ALL	0	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06818	103.4052	GRACEMONT - MINCO 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06788	103.3515	SPP-AEPW-04	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0684	103.1081	OGE3TERM22	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06796	103.1051	DBL-THIS-CLR	
FDNS	01ALL	2	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05727	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06817	102.7891	OGE3TERM22	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06722	102.7744	DBL-WICH-THI	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08092	102.6045	DBL-WICH-THI	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06699	102.4627	DBL-WICH-THI	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08062	102.2677	DBL-WICH-THI	
FDNS	01ALL	0	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05758	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06796	101.9656	SPP-WERE-07C	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06762	101.6697	DBL-BVR-WWRD	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06779	101.6469	SPP-WERE-07C	
FDNS	00NR	0	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06817	101.5685	OGE3TERM23	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06588	101.4599	DBL-G1216-TH	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06906	101.4156	OGE3TERM14	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06739	101.3521	DBL-BVR-WWRD	
FDNS	00NR	2	13WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06794	101.2545	OGE3TERM23	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06566	101.1406	DBL-G1216-TH	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06884	101.0911	OGE3TERM14	
FDNS	01ALL	2	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06217	101.0705	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06882	101.0528	OGE3TERM12	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08415	101.0415	OGE3TERM12	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08466	100.8258	OGE3TERM14	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0686	100.731	OGE3TERM12	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08385	100.6818	OGE3TERM12	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08436	100.4645	OGE3TERM14	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08429	100.4395	WRTOD400	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06703	100.3671	DBL-WWRD-G12	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06888	100.356	DBL-G1211-PT	
FDNS	01ALL	0	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06255	100.3427	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06857	100.3298	DBL-MUL-RENO	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06891	100.3099	OGE3TERM47	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06857	100.224	DBL-SPRVL-MU	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06902	100.1991	WRTOD400	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06935	100.1537	SPP-SWPS-01	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06945	100.1442	OGE3TERM11	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07881	100.0775	DBL-G1216-TH	
FDNS	00NR	2	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08399	100.0665	WRTOD400	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06681	100.0662	DBL-WWRD-G12	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06869	100	OGE3TERM47	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06866	100	DBL-G1211-PT	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06835	100	DBL-MUL-RENO	
FDNS	00NR	0	13SP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08446	99.9	OGE3TERM47	
FDNS	00NR	0	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0689	99.9	OGE3TERM17	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0688	99.9	WRTOD400	
FDNS	00NR	2	18WP	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06835	99.9	DBL-SPRVL-MU	
FDNS	06ALL	0	13G	G12_032	FROM->TO	TUCXFR345230	300	0.04016	124.2	BASE CASE	
FDNS	08ALL	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.0374	113.6613	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	08ALL	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.0374	113.3142	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	08ALL	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.0374	111.0038	DOMES - PAWHUSKA TAP 138KV CKT 1	
FDNS	08ALL	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.0374	109.9322	DOMES - MOUND ROAD 138KV CKT 1	
FDNS	08G12_033	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.03737	102.0154	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	08G12_033	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.03737	101.6662	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	8	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.03737	101.615	SHIDLER - WEST PAWHUSKA 138KV CKT 1	
FDNS	8	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.03737	101.2659	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	
FDNS	01ALL	2	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08266	104.0767	GRACEMONT - MINCO 345KV CKT 1	
FDNS	01ALL	0	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08357	103.4052	GRACEMONT - MINCO 345KV CKT 1	
FDNS	01ALL	2	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07352	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	01ALL	0	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.074	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	
FDNS	01ALL	2	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07949	101.0705	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	01ALL	0	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08007	100.3427	ARCADIA - SEMINOLE 345KV CKT 1	
FDNS	06ALL	0	13G	G12_033	FROM->TO	TUCXFR345230	300	0.04169	124.2	BASE CASE	
FDNS	0	0	13SP	G12_034	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03965	100.4289	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	
FDNS	0	2	13SP	G12_034	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03965	100.4278	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	
FDNS	00HOSKINSOFF	0	13SP	G12_034	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03961	100.4267	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	
FDNS	00G12_034	0	13SP	G12_034	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03966	100.2017	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	0	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03296	104.7559	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	2	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03296	104.7555	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_035	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03297	104.7343	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09189	120.4138	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09189	120.412	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09186	120.4103	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09192	119.9397	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11413	117.5335	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0	2	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11413	117.5306	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11407	117.5276	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00G12_035	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11416	116.6169	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11454	112.6348	BASE CASE
FDNS	0	2	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11454	112.6313	BASE CASE
FDNS	00HOSKINSOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11449	112.6234	BASE CASE
FDNS	00G12_035	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11457	111.8577	BASE CASE
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11781	106.0706	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	2	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11781	106.0678	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11775	106.065	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_035	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11784	105.4582	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11413	102.4448	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	2	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11413	102.442	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11407	102.4391	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13345	102.2615	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13345	102.2571	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13338	102.253	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13347	102.0803	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11416	101.8312	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13756	100.8888	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13756	100.8853	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13749	100.8817	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1376	100.1252	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	23SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05148	102.4353	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	23SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05147	102.4351	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_035	0	23SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05149	102.1966	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_035	0	18SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05853	101.0755	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05853	101.0734	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	18SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05852	101.072	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_036	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03965	100.4289	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	0	2	13SP	G12_036	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03965	100.4278	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03961	100.4267	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	00G12_036	0	13SP	G12_036	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03966	100.2017	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	00G12_036	0	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05574	116.1416	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05569	116.128	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	2	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05574	116.1243	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	0	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05574	116.1205	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1	309	0.10629	105.0721	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2
FDNS	00HOSKINSOFF	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1	309	0.1063	105.0721	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2
FDNS	00G12_036	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1	309	0.10629	105.0297	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2
FDNS	0	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2	309	0.10457	103.8897	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1
FDNS	00HOSKINSOFF	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2	309	0.10459	103.8897	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1
FDNS	00G12_036	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2	309	0.10458	103.8484	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1
FDNS	00G12_036	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03558	126.1646	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03558	126.1615	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03555	126.1607	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03201	121.4754	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03197	121.4403	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.032	121.4387	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.032	121.4383	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03558	117.4265	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03558	117.4238	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00HOSKINSOFF	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03555	117.4231		Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03197	114.8799		Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.032	114.8789		Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03201	114.8788		Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.032	114.8785		Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03682	111.1845		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03682	111.1812		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03678	111.1805		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03291	109.375		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03297	109.2453		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03296	109.2344		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03296	109.234		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_036	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03682	104.9215		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03682	104.9186		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03678	104.9179		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03291	104.8556		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03296	104.7559		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03296	104.7555		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03297	104.7343		LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09189	120.4138		CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09189	120.412		CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09186	120.4103		CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09192	119.9397		CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11413	117.5335		ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11413	117.5306		ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11407	117.5276		ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11416	116.6169		ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11454	112.6348		BASE CASE
FDNS	0	2	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11454	112.6313		BASE CASE
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11449	112.6234		BASE CASE
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11457	111.8577		BASE CASE
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11781	106.0706		LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11781	106.0678		LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11775	106.065		LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11784	105.4582		LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11413	102.4448		ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11413	102.442		ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11407	102.4391		ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13345	102.2615		TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13345	102.2571		TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13338	102.253		TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13347	102.0803		TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11416	101.8312		ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13756	100.8888		JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	2	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13756	100.8853		JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00HOSKINSOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13749	100.8817		JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1376	100.1252		JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	23SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05148	102.4353		YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	23SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05147	102.4351		YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_036	0	23SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05149	102.1966		YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G12_036	0	18SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05853	101.0755		YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	0	0	18SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05853	101.0734	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00HOSKINSOFF	0	18SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05852	101.072	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07894	113.6613	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07894	113.3142	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07894	111.0038	DOMES - PAWHUSKA TAP 138KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07894	109.9322	DOMES - MOUND ROAD 138KV CKT 1
FDNS	08G12_040	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07891	102.2508	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	08G12_040	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07891	101.9016	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	8	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07891	101.615	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	8	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07891	101.2659	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06301	109.0041	DBL-WICH-THI
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06176	108.6725	DBL-WICH-THI
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06184	107.6132	DBL-G1216-TH
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06059	107.2854	DBL-G1216-TH
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0643	106.7062	OGE3TERM14
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06418	106.5993	OGE3TERM12
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06246	106.4237	DBL-WWRD-G12
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06303	106.3812	OGE3TERM14
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06292	106.2763	OGE3TERM12
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06429	106.1694	DBL-G1211-PT
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06121	106.1222	DBL-WWRD-G12
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06399	106.1144	DBL-MUL-RENO
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0655	106.0918	OGE3TERM47
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06442	106.0007	WRTOD400
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06399	106.0003	DBL-SPRVL-MU
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06303	105.8385	DBL-G1211-PT
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06273	105.7907	DBL-MUL-RENO
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06487	105.7776	OGE3TERM18
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06419	105.7714	A222
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06426	105.7612	OGE3TERM47
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06273	105.6778	DBL-SPRVL-MU
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06315	105.6688	WRTOD400
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06429	105.6667	OGE3TERM17
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0645	105.6205	OGE3TERM11
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06478	105.6151	OGE3TERM20
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06471	105.5934	SPP-SWPS-01
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06359	105.4608	OGE3TERM18
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06293	105.45	A222
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06422	105.4141	OGE3TERM13
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06419	105.4057	OGE3TERM19
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06302	105.3427	OGE3TERM17
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06323	105.2949	OGE3TERM11
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06351	105.289	OGE3TERM20
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06344	105.2593	SPP-SWPS-01
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06428	105.1494	AI43
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06414	105.1381	OGE3TERM3
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06296	105.0913	OGE3TERM13
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06293	105.0831	OGE3TERM19
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06417	105.0645	OGE3TERM28
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06423	105.0482	GRDA-OPGD-05
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06499	104.9642	SPP-AEPW-35
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06418	104.9006	CELE-WELLOP2
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06419	104.8951	ATC_B2_8E2
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06301	104.8242	AI43
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06288	104.8139	OGE3TERM3
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06291	104.7426	OGE3TERM28
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06297	104.7267	GRDA-OPGD-05
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06363	104.6322	SPP-AEPW-35
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06292	104.5785	CELE-WELLOP2
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06471	104.3183	SPP-AEPW-32
FDNS	01ALL	2	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06338	104.0767	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06344	103.9865	SPP-AEPW-32
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06429	103.9181	OGE3TERM33
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06294	103.8554	SPP-SWPS-02A
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06417	103.6734	SPP-AEPW-04
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06303	103.5972	OGE3TERM33
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06428	103.4205	DBL-THIS-CLR
FDNS	01ALL	0	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06398	103.4052	GRACEMONT - MINCO 345KV CKT 1
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06291	103.3515	SPP-AEPW-04
FDNS	00NR	0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0645	103.1081	OGE3TERM22
FDNS	00NR	2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06302	103.1051	DBL-THIS-CLR

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	01ALL		2	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05353	102.9427	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR		2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06324	102.7891	OGE3TERM22
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06402	102.7744	DBL-WICH-THI
FDNS	00NR		0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07827	102.6045	DBL-WICH-THI
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0628	102.4627	DBL-WICH-THI
FDNS	00NR		2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07645	102.2677	DBL-WICH-THI
FDNS	01ALL		0	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05381	102.2572	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR		0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06545	101.9656	SPP-WERE-07C
FDNS	00NR		0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06389	101.6697	DBL-BVR-WWRD
FDNS	00NR		2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06337	101.6469	SPP-WERE-07C
FDNS	00NR		0	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06456	101.5685	OGE3TERM23
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06285	101.4599	DBL-G1216-TH
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06538	101.4156	OGE3TERM14
FDNS	00NR		2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06263	101.3521	DBL-BVR-WWRD
FDNS	00NR		2	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06331	101.2545	OGE3TERM23
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06163	101.1406	DBL-G1216-TH
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06414	101.0911	OGE3TERM14
FDNS	01ALL		2	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05893	101.0705	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06521	101.0528	OGE3TERM12
FDNS	00NR		0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08091	101.0415	OGE3TERM12
FDNS	00NR		0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08138	100.8258	OGE3TERM14
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06398	100.731	OGE3TERM12
FDNS	00NR		2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07906	100.6818	OGE3TERM12
FDNS	00NR		2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07953	100.4645	OGE3TERM14
FDNS	00NR		0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08109	100.4395	WRTOD400
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06351	100.3671	DBL-WWRD-G12
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06531	100.356	DBL-G1211-PT
FDNS	01ALL		0	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05928	100.3427	ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06501	100.3298	DBL-MUL-RENO
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06645	100.3099	OGE3TERM47
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06501	100.224	DBL-SPRVL-MU
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06543	100.1991	WRTOD400
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06573	100.1537	SPP-SWPS-01
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06545	100.1442	OGE3TERM11
FDNS	00NR		0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07632	100.0775	DBL-G1216-TH
FDNS	00NR		2	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07924	100.0665	WRTOD400
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06229	100.0662	DBL-WWRD-G12
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06524	100	OGE3TERM47
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06408	100	DBL-G1211-PT
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06378	100	DBL-MUL-RENO
FDNS	00NR		0	13SP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0832	99.9	OGE3TERM47
FDNS	00NR		0	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06531	99.9	OGE3TERM17
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0642	99.9	WRTOD400
FDNS	00NR		2	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06378	99.9	DBL-SPRVL-MU
FDNS	08ALL		0	13G	G12_040	TO->FROM	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	102.0266	SPP-WERE-08B
FDNS	08ALL		0	13G	G12_040	TO->FROM	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	101.9583	CRESWELL - OXFORD 138KV CKT 1
FDNS	08ALL		0	13G	G12_040	TO->FROM	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	101.097	OXFORD - SUMNER 4 138KV CKT 1
FDNS	08ALL		2	13G	G12_040	TO->FROM	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09299	100.7269	SPP-WERE-08B
FDNS	08ALL		2	13G	G12_040	TO->FROM	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09299	100.6591	CRESWELL - OXFORD 138KV CKT 1
FDNS	08ALL		0	13G	G12_040	TO->FROM	CITY OF WINFIELD - RAINBOW 69KV CKT 1	43	0.04662	101.4754	OAK - STROTHER FIELD (CITY OF WINFIELD) 69KV CKT 1
FDNS	08ALL		2	13G	G12_040	TO->FROM	CITY OF WINFIELD - RAINBOW 69KV CKT 1	43	0.04642	100.7692	OAK - STROTHER FIELD (CITY OF WINFIELD) 69KV CKT 1
FDNS	08ALL		0	13G	G12_040	FROM->TO	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	105.0294	SPP-WERE-08B
FDNS	08ALL		0	13G	G12_040	FROM->TO	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	104.9621	CRESWELL - OXFORD 138KV CKT 1
FDNS	08ALL		0	13G	G12_040	FROM->TO	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	104.1041	OXFORD - SUMNER 4 138KV CKT 1
FDNS	08ALL		2	13G	G12_040	FROM->TO	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09299	103.7241	SPP-WERE-08B
FDNS	08ALL		2	13G	G12_040	FROM->TO	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09299	103.6571	CRESWELL - OXFORD 138KV CKT 1
FDNS	08ALL		2	13G	G12_040	FROM->TO	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09299	102.8027	OXFORD - SUMNER 4 138KV CKT 1
FDNS	08ALL		0	13G	G12_040	FROM->TO	OAK - RAINBOW 69KV CKT 1	43	0.04662	104.5056	OAK - STROTHER FIELD (CITY OF WINFIELD) 69KV CKT 1
FDNS	08ALL		2	13G	G12_040	FROM->TO	OAK - RAINBOW 69KV CKT 1	43	0.04642	104.2444	OAK - STROTHER FIELD (CITY OF WINFIELD) 69KV CKT 1
FDNS	06ALL		0	13G	G12_040	FROM->TO	TUCXFR345230	300	0.04039	124.2	BASE CASE
FDNS	00NR		0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0692	109.0041	DBL-WICH-THI
FDNS	00NR		2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06896	108.6725	DBL-WICH-THI
FDNS	00NR		0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06816	107.6132	DBL-G1216-TH
FDNS	00NR		2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06791	107.2854	DBL-G1216-TH
FDNS	00NR		0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0707	106.7062	OGE3TERM14
FDNS	00NR		0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07052	106.5993	OGE3TERM12
FDNS	00NR		0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06903	106.4237	DBL-WWRD-G12
FDNS	00NR		2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	106.3812	OGE3TERM14
FDNS	00NR		2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07027	106.2763	OGE3TERM12
FDNS	00NR		0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07058	106.1694	DBL-G1211-PT
FDNS	00NR		2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06879	106.1222	DBL-WWRD-G12
FDNS	00NR		0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07031	106.1144	DBL-MUL-RENO
FDNS	00NR		0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07068	106.0918	OGE3TERM47

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07069	106.0007	WRTOD400	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07031	106.0003	DBL-SPRVL-MU	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07033	105.8385	DBL-G1211-PT	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07006	105.7907	DBL-MUL-RENO	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07119	105.7776	OGE3TERM18	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07051	105.7714	A222	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07044	105.7612	OGE3TERM47	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07006	105.6778	DBL-SPRVL-MU	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07045	105.6688	WRTOD400	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0706	105.6667	OGE3TERM17	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0711	105.6205	OGE3TERM11	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07101	105.6151	OGE3TERM20	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07097	105.5934	SPP-SWPS-01	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07094	105.4608	OGE3TERM18	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07027	105.45	A222	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07056	105.4141	OGE3TERM13	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07052	105.4057	OGE3TERM19	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07036	105.3427	OGE3TERM17	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07085	105.2949	OGE3TERM11	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07076	105.289	OGE3TERM20	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07072	105.2593	SPP-SWPS-01	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0706	105.1494	AI43	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07047	105.1381	OGE3TERM3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07031	105.0913	OGE3TERM13	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07027	105.0831	OGE3TERM19	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07049	105.0645	OGE3TERM28	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07055	105.0482	GRDA-OPGD-05	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07121	104.9642	SPP-AEPW-35	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07051	104.9006	CELE-WELLOP2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07051	104.8951	ATC_B2_8E2	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07035	104.8242	AI43	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07023	104.8139	OGE3TERM3	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07025	104.7426	OGE3TERM28	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07031	104.7267	GRDA-OPGD-05	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07092	104.6322	SPP-AEPW-35	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07026	104.5785	CELE-WELLOP2	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07096	104.3183	SPP-AEPW-32	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07072	103.9865	SPP-AEPW-32	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	103.9181	OGE3TERM33	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07027	103.8554	SPP-SWPS-02A	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07049	103.6734	SPP-AEPW-04	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07037	103.5972	OGE3TERM33	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07058	103.4205	DBL-THIS-CLR	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07025	103.3515	SPP-AEPW-04	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07079	103.1081	OGE3TERM22	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07033	103.1051	DBL-THIS-CLR	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07055	102.7891	OGE3TERM22	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06984	102.7744	DBL-WICH-THI	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08317	102.6045	DBL-WICH-THI	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0696	102.4627	DBL-WICH-THI	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08286	102.2677	DBL-WICH-THI	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07039	101.9656	SPP-WERE-07C	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07015	101.6697	DBL-BVR-WWRD	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07018	101.6469	SPP-WERE-07C	
FDNS	00NR	0	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07061	101.5685	OGE3TERM23	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06879	101.4599	DBL-G1216-TH	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07144	101.4156	OGE3TERM14	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06991	101.3521	DBL-BVR-WWRD	
FDNS	00NR	2	13WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07036	101.2545	OGE3TERM23	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06855	101.1406	DBL-G1216-TH	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0712	101.0911	OGE3TERM14	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07117	101.0528	OGE3TERM12	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08589	101.0415	OGE3TERM12	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08642	100.8258	OGE3TERM14	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07093	100.731	OGE3TERM12	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08558	100.6818	OGE3TERM12	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08611	100.4645	OGE3TERM14	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08602	100.4395	WRTOD400	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0697	100.3671	DBL-WWRD-G12	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07123	100.356	DBL-G1211-PT	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07095	100.3298	DBL-MUL-RENO	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07133	100.3099	OGE3TERM47	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07095	100.224	DBL-SPRVL-MU	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
							(MVA)	TDF	(% MVA)		
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07134	100.1991	WRTOD400	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07162	100.1537	SPP-SWPS-01	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07182	100.1442	OGE3TERM11	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08145	100.0775	DBL-G1216-TH	
FDNS	00NR	2	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0857	100.0665	WRTOD400	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06946	100.0662	DBL-WWRD-G12	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07109	100	OGE3TERM47	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07099	100	DBL-G1211-PT	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07072	100	DBL-MUL-RENO	
FDNS	00NR	0	13SP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08629	99.9	OGE3TERM47	
FDNS	00NR	0	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07125	99.9	OGE3TERM17	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0711	99.9	WRTOD400	
FDNS	00NR	2	18WP	G12_041	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07072	99.9	DBL-SPRVL-MU	
FDNS	00G12_042	0	23SP	G12_042	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.04925	100.095	BENTON - WICHITA 345KV CKT 1	
FDNS	00G12_042	0	18SP	G12_042	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03019	122.7023	DBL-WICH-THI	
FDNS	00G12_042	0	23SP	G12_042	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04925	104.9981	BENTON - WICHITA 345KV CKT 1	
FDNS	00G12_042	0	18SP	G12_042	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05095	102.6194	BENTON - WICHITA 345KV CKT 1	
FDNS	00G12_042	0	18SP	G12_042	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03019	153.4327	DBL-WICH-THI	
FDNS	0	0	18SP	G12_042	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.0302	101.7094	DBL-WICH-THI	
FDNS	00HOSKINSOFF	0	18SP	G12_042	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.0302	101.6368	DBL-WICH-THI	
FDNS	00G12_042	0	13WP	G12_042	FROM->TO	MOUNDRIDGE (MOUND10X) 138/115/13.8KV TRANSFORMER CKT 1	110	0.03031	116.8714	RENO COUNTY - WICHITA 345KV CKT 1	
FDNS	00G12_042	0	13WP	G12_042	FROM->TO	MOUNDRIDGE (MOUND10X) 138/115/13.8KV TRANSFORMER CKT 1	110	0.03031	116.6601	RENO COUNTY - WICHITA 345KV CKT 1	
FDNS	03NR	0	13G	G12_042	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.04435	117.0536	DBL-G1211-PT	
FDNS	03NR	2	13G	G12_042	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.04442	115.141	DBL-G1211-PT	
FDNS	03NR	0	13G	G12_042	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.03617	101.262	DBL-SPRVL-MU	
FDNS	03NR	0	13G	G12_042	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.03617	100.6254	DBL-MUL-RENO	

I: Group 1 Dynamic Stability Analysis Report

See Quanta Report on next page.



DISIS 2012-002

Group 1

Definitive Interconnection System Impact Study

January 24, 2013

Submitted To:
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EXECUTIVE SUMMARY

The Southwest Power Pool (SPP), on behalf of generation interconnection customers, desires a definitive interconnection system impact study for a group of generators in north central Oklahoma between Oklahoma City and the Kansas border collectively referred to as Group 1. Group 1 is made of two generators:

- GEN-2012-016. 280 MW summer, 312 MW winter, generating plant connected to tap of the Woodward-Thistle 345kV line
- GEN-2012-031. 200.1 MW windfarm using Siemens 2.3 MVA units connected to the Cimaron 345kV bus.

There are 24 previously queued generators in Group 1.

SPP requested a stability analysis for the queued generator projects in Group 1. A power factor analysis was completed for the wind farm in GEN-2012-031. No power factor study was performed for GEN-2012-016. SPP did not request an Available Transfer Capability (ATC) study as part of this study.

Transient stability analysis shows no new problems with the dynamic response of study generation in the region of interest.

All generators in the monitored area remain stable during disturbances.

GEN-2012-031 speed shows oscillation at about 1.7Hz. However, since the generated power and POI voltage appear to be flat and stable in post-contingency, it is likely that the observed oscillations are model related. Therefore, it is recommended that the control circuitry parameters be adjusted to provide damping to address this sustained oscillation. GEN-2012-031 generated power and POI voltage are reasonably stable.

All wind turbine generators have the capability of pre-contingency voltage recovery.

Low Voltage Ride Through (LVRT) analysis shows no generators tripping offline due to low voltage.

Power factor analysis indicates that GEN-2012-031 will need to provide reactive compensation at the POI to contribute to maintaining base case and contingency voltages at scheduled voltage of 1.00 PU. Some contingencies may require the pro-rata contribution of reactive power from GEN-2012-031 to exceed a net power factor of 95% lag/lead at the POI.



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1. INTRODUCTION

The Southwest Power Pool (hereafter referred to as SPP) commissioned Quanta Technology to study the impact of a group of generators in the SPP interconnection queue referred to as Group.1 The sites studied are in north central Oklahoma between Oklahoma City and the Kansas border.

The sites studied were:

- GEN-2012-016. 280 MW summer, 312 MW winter, generating plant connected to tap of the Woodward-Thistle 345kV line
- GEN-2012-031. 200.1 MW windfarm using Siemens 2.3 MVA units connected to the Cimaron 345kV bus.

SPP did not request an Available Transfer Capability (ATC) study. The ATC study will be required when the generation companies request transmission service.

SPP requested a stability analysis for all of the generation in Group 1 and a power factor analysis for the windfarm in GEN-2012-31. QUANTA TECHNOLOGY performed a dynamics study and a power factor study utilizing SPP's list of faults as follows:

1. Determine the amount of reactive compensation to be supplied by the wind farm facility as determined by a proxy VAR generator modeled at the Point of Interconnection (POI) to maintain a scheduled bus voltage of 1.0 PU for the transmission line and transformer outages specified in the Group 1 study. GEN-2012-031 shares a common POI with GEN-2012-54. The pro-rata VAR requirements for the generators in Group 1 was determined.
2. Determine the ability of the wind farm to meet FERC Order 661A (low voltage ride through and wind farm recovery to pre-fault voltage) with and without additional reactive power support.
3. Determine the ability of the generators to remain in synchronism following three phase and single line to ground faults.

The results of the study are given in the following sections.

2. STUDY METHODOLOGY

SPP provided 2014 summer peak and 2014 winter peak load flow cases in PSS/E format. Table 2-1 below shows the total demand and generation in the monitored areas.

Table 2-1 Description of Study Areas

Area #	Area Name	2014 Summer Peak		2014 Winter Peak	
		Load (MW)	Generation (MW)	Load (MW)	Generation (MW)
520	AEPW	10434.1	8485.5	7953.8	6130.6
524	OKGE	6506.6	11337.3	4559.2	9140.0
525	WFEC	1434.8	1255.7	1314.6	1031.2
526	SPS	6149.1	6899.6	4614.0	5201.5
531	MIDW	409.5	424.2	292.8	434.2
534	SUNC	1222.1	2180.1	794.6	1825.4
536	WERE	5890.7	5424.7	3900.8	3872.1

2.1 Power Factor Analysis

A VAR generator with large capacity was placed at the wind farm POI. The VAR generator was set to hold a voltage schedule at the POI consistent with a voltage schedule of 1.0 PU. The list of contingencies shown in Table 2-2 was simulated. The pro-rata contribution of reactive compensation from GEN-2012-031, based on MW output, to maintain 1.0PU at the POI was determined.

Table 2-2 Steady State Contingency Descriptions

Cont No.	Description
FLT01	Outage the GEN-2012-016 (562286) to Woodward (515375) 345kV line
FLT03	Outage the GEN-2012-016 (562286) to Thistle (539801) 345kV line
FLT05	Outage the Woodward (515375) to Border (515458) 345kV line
FLT07	Outage the Woodward (515375) to Beaver County (580500) 345kV line ckt 1
FLT09	Outage the GEN-2011-051 Tap (562075) to Woodward (515375) 345kV line
FLT11	Outage the GEN-2011-051 Tap (562075) to Tatonga (515407) 345kV line
FLT13	Outage the Tatonga (515407) to Mathewson (560368) 345kV line ckt 1
FLT15	Outage the Northwest (514880) to Spring Creek (514881) 345kV line
FLT17	Outage the Northwest (514880) to Cimarron (514901) 345kV line
FLT19	Outage the Arcadia (514908) to Northwest (514880) 345kV line
FLT21	Outage the Mathewson (560368) to Woodring (514715) 345kV line
FLT23	Outage the Mathewson (560368) to Cimarron (514901) 345kV line
FLT25	Outage the Cimarron (514901) to Minco (514801) 345kV line
FLT27	Outage the Cimarron (514901) to Draper (514934) 345kV line
FLT29	Outage the Minco (514801) to Gracemont (515800) 345kV line
FLT31	Outage the Draper (514934) to Seminole (515045) 345kV line
FLT33	Outage the Mathewson (560368) to Northwest (514880) 345kV line
FLT35	Outage the Wichita (532796) to EMPEC (532761) 345kV line
FLT37	Outage the Wichita (532796) to Benton (532791) 345kV line
FLT39	Outage the Beaver (580500) to Hitchland (523097) 345kV line
FLT41	Outage the Beaver (580500) to Buckner (531501) 345kV line
FLT43	Outage the Wichita (532796) to Reno (532771) 345kV line
FLT45	Outage the Wichita (532796) to Viola (532798) 345kV line
FLT47	Outage the Thistle (539801) to Wichita (532796) 345kV line ckt2
FLT49	Outage the Thistle (539801) to Clark County (539800) 345kV line ckt2
FLT51	Outage the Clark County (539800) to Spearville (531469) 345kV line ckt2
FLT53	Outage the Woodward 345kV (515375) to Woodward 138kV (515376)/13.8kV (515795) transformer
FLT54	Outage the Thistle (539801) 345kV to Thistle (539804) 138kV/(539802) 13.8kV transformer
FLT55	Outage the Cimarron (514901) 345kV to Cimarron (514898) 138kV/(515714) 13.8kV transformer
FLT56	<i>on Northwest 345kV (514880) to 138kV (514879)/13.8kV (515742) transformer</i>
FLT57	<i>double circuit fault Outage the Thistle (539801) to Wichita (532796) 345kV lines</i>
FLT58	double circuit fault on the Thistle (539801) to Clark County (539800) 345kV lines
FLT59	double circuit fault on the Woodward (515375) to Beaver County (580500) 345kV lines
FLT60	double circuit fault on the Clark County (539800) to Spearville (531469) 345kV lines
FLT61	Outage the Woodward (515375) to Thistle (539801) 345kV line

2.2 DYNAMIC Analysis

The study areas are shown in Table 3-1. These areas are monitored in the dynamic analysis.

The transmission line and transformer faults were simulated and synchronous machine rotor angles and wind turbine generator speeds were monitored to check whether synchronism is maintained following fault removal.

All line faults were simulated in the following fashion:

1. Apply fault to a line near one of its buses.
2. Clear fault after five (5) cycles by tripping the faulted line.
3. Wait 20 cycles and reclose the tripped line into the fault.
4. Leave fault on for five (5) cycles, then trip the line and remove the fault.

Note that the above line faults were simulated in three phase (3Φ) and single line to ground (1Φ) versions. Odd numbered faults are 3Φ , and even numbered faults are 1Φ

All transformer and double-circuit faults were simulated in the following fashion:

1. Apply fault at the identified bus terminals of the transformer or double circuit lines.
2. Clear fault after five (5) cycles by tripping the faulted transformer or double circuit.

Note that no reclosing was considered for the above transformer and double-circuit faults.



Table 2-3 Fault Descriptions

Fault No.	Description
1,2	G12-016-TAP (562286) to Woodward (515375) 345kV line, near GEN-2012-016
3,4	G12-016-TAP (562286) to Thistle (539801) 345kV line, near GEN-2012-016
5,6	Woodward (515375) to Border (515458) 345kV line, near Woodward
7,8	Woodward (515375) to Beaver County (580500) 345kV ckt 1, near Woodward
9,10	GEN-2011-051 Tap (562075) to Woodward (515375) 345kV line, near GEN-2011-051 Tap
11,12	GEN-2011-051 Tap (562075) to Tatonga (515407) 345kV line, near GEN-2011-051 Tap
13,14	Tatonga (515407) to Mathewson (560368) 345kV ckt 1, near Tatonga
15,16	Northwest (514880) to Spring Creek (514881) 345kV line, near Northwest
17,18	Northwest (514880) to Cimarron (514901) 345kV line, near Northwest
19,20	Arcadia (514908) to Northwest (514880) 345kV line, near Arcadia.
21,22	Mathewson (560368) to Woodring (514715) 345kV line, near Woodring
23,24	Mathewson (560368) to Cimarron (514901) 345kV line, near Cimarron
25,26	Cimarron (514901) to Minco (514801) 345kV line, near Cimarron
27,28	Cimarron (514901) to Draper (514934) 345kV line, near Cimarron
29,30	Minco (514801) to Gracemont (515800) 345kV line, near Minco
31,32	Draper (514934) to Seminole (515045) 345kV ckt 2 near Draper
33,34	Mathewson (560368) to Northwest (514880) 345kV lines, near Northwest
35,36	Wichita (532796) to EMPEC (532761) 345kV line, near Wichita
37,38	Wichita (532796) to EMPEC (532761) 345kV line, near Wichita
39,40	Beaver (580500) to Hitchland (523097) 345kV line, near Beaver
41,42	Beaver (580500) to Buckner (531501) 345kV line, near Beaver
43,44	Wichita (532796) to Reno (532771) 345kV line, near Wichita
45,46	Wichita (532796) to Viola (532798) 345kV line, near Wichita
47,48	Thistle (539801) to Wichita (532796) 345kV line ckt2, near Thistle
49,50	Thistle (539801) to Clark County (539800) 345kV line ckt2, near Thistle
51,52	Clark County (539800) to Spearville (531469) 345kV line ckt2, near Clark County
53	3 phase fault on the Woodward 345kV (515375) to Woodward 138kV (515376)/13.8kV (515795) transformer, near the 345 kV bus
54	3 phase fault on the Thistle (539801) 345kV to Thistle (539804) 138kV/(539802) 13.8kV transformer, 345kV bus
55	3 phase fault on the Cimarron (514901) 345kV to Cimarron (514898) 138kV/(515714) 13.8kV transformer, 345kV bus
56	3 phase fault on Northwest 345kV (514880) to 138kV (514879)/13.8kV (515742) transformer, near the 345 kV bus
57	3-phase double circuit fault on the Thistle (539801) to Wichita (532796) 345kV lines, near Thistle
58	3-phase double circuit fault on the Thistle (539801) to Clark County (539800) 345kV lines, near Thistle
59	3-phase double circuit fault on the Woodward (515375) to Beaver County (580500) 345kV lines, near Woodward
60	3-phase double circuit fault on the Clark County (539800) to Spearville (531469) 345kV lines, near Clark County
61,62	Woodward (515375) to Thistle (539801) 345kV line, near Woodward

In order to simulate 1 Φ faults, equivalent reactances¹ were determined to be applied at the faulted buses. Table 2-4 presents equivalent reactors used in the transient stability study.

Table 2-4 Equivalent Reactors (MVAR) for Single Line to Ground Faults

Fault No.	Faulted Bus #	2012 Summer Peak	2012 Winter Peak
2,4	562286	-5263.5	-5208.2
6,8	515375	-7861.7	-7754.4
10,12	562075	-4986.8	-4904.1
14	515407	-5125.2	-4971.0
16,18	514880	-10771.0	-9296.6
20	514908	-9855.4	-8733.9
22	514715	-6090.6	-5853.4
24,26,28	514901	-10676.7	-9685.2
30	515800	-4940.4	-5262.7
32	514934	7849.7	-7084.4
34	560368	-10138.2	-9128.5
36,38,44,46	532796	-8747.1	-6729.1
40,42	580500	-6878.0	-6877.1
48,50	539801	-6060.3	-5613.8
52	539800	-5895.5	-5750.2
61	515375	-7861.7	-7754.4

Another important aspect of the dynamic analysis was to check FERC Order 661A compliance. The turbine generators were monitored to determine whether they stayed connected to the grid (Low Voltage Ride Through - LVRT) following the faults defined in Table 3-1. The wind farm capability of post-fault voltage recovery at the POI was also checked.

3. PROJECT DESCRIPTION

Following is a table of the proposed generators in Group 1.

Table 3-1: Points of Interconnection for Group 1

Request	Size (MW)	Turbine Model	Point Of Interconnection		
			Common Name	Bus #	Name in Model
GEN-2012-016	280 Summer 312 Winter	GENROU	Tap Woodward- Thistle 345kV	562286	G12-016-TAP
GEN-2012-031	200.1	Siemens 2.3 (SWTVS4)	Cimarron 345kV	514901	CIMARON7

¹ The equivalent reactances were calculated when the voltage at the faulted bus dropped to 0.60 pu.

All of the following one-line diagrams use this color code for nominal voltages:

Red **345 kV**

Black **lower voltage levels**

Following is the one-line diagram of the interconnections of GEN-2012-016 and GEN-2012-031. All voltages and line flows are from the 2014 summer peak base case.

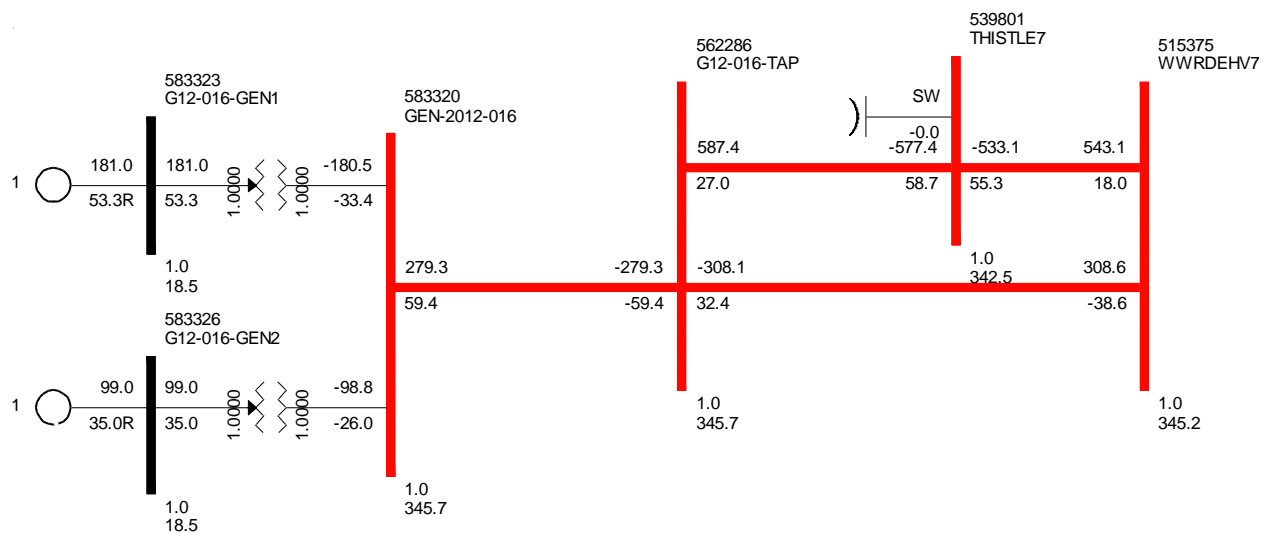


Figure 3-1 GEN-2012-016 One-Line Diagram

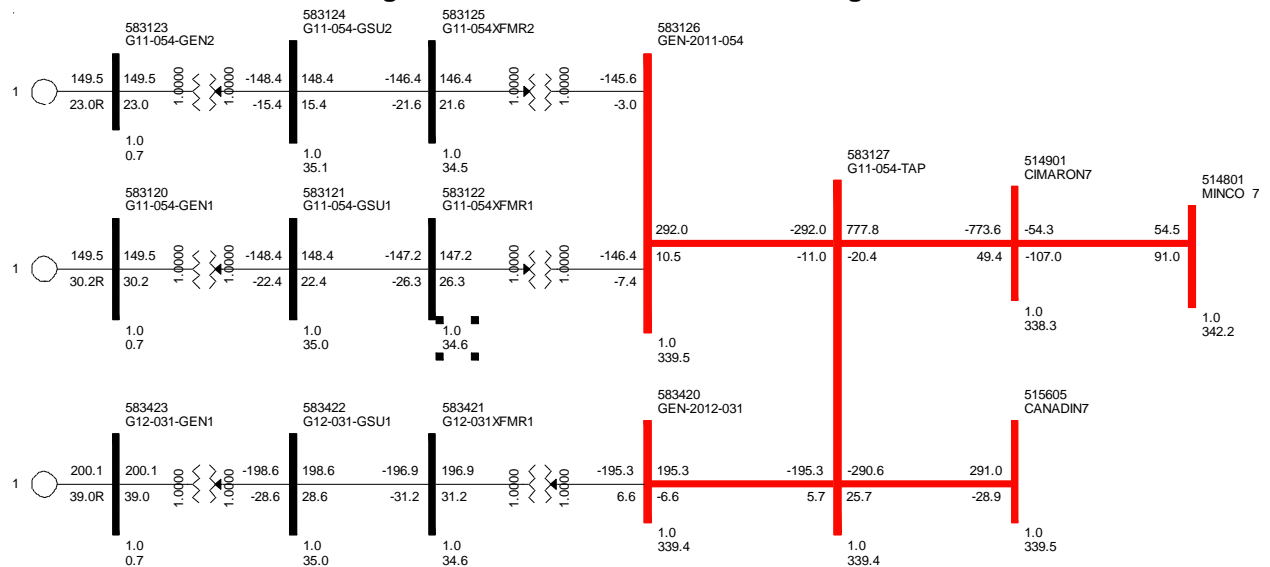


Figure 3-2 GEN-2012-031 One-Line Diagram

As illustrated below, the site in Group 1 is in central Oklahoma between Oklahoma City and the Kansas border.



Figure 3-3 Geographical Location of Group 1 Project

The following is the detailed description of the wind projects in Group 1.

GEN-2012-016

- Combustion Turbine
 - Active power capability: 280 MW Summer; 310 MW Winter
 - Reactive power capability: 135 MVAR Summer; 150 MVAR Winter
 - Power factor: +/- 0.90

- Interconnection
 - Voltage: 345kV
 - Location: Tap to the Thistle-Woodring 345 kV line
 - Transformers: Two step-up transformers connecting to the 345 kV
 - Transformer 1

- MVA: Rate A - 225, Rate B -225
- Voltage: 345/18 kV
- X: 8.0% on 135 MVA
- Transformer 2
 - MVA: Rate A – 155, Rate B - 155
 - Voltage: 345/18 kV
 - X: 8.0% on 98 MVA

GEN-2012-031

- Wind farm rating
 - Active power capability: 200 MW
 - Reactive power capability: 97 MVAR
 - Power factor: +/- 0.90

- Interconnection:
 - Voltage: 345 kV
 - Location: Radial 345kV lead line from the Cimaron 345 kV bus
 - Transformer: One step-up transformer connecting to the 345 kV
 - MVA: Rate A - 210, Rate B -210
 - Voltage: 345/34.5 kV
 - X: 12.0% on 125 MVA

- Wind turbine:
 - Number: 87
 - Manufacturer: Siemens
 - Type:
 - Machine terminal voltage: 700V
 - Rated power: 200 MW
 - Frequency: 60Hz
 - Generator step-up transformer
 - MVA: 226.2
 - Voltage: 34.5/0.7kV
 - X: 6% on 226.2 MVA

4. POWER FACTOR RESULTS

The proposed GEN-2012-031 wind farm (200 MW) will be comprised of 87 GE 2.3 MW wind turbine generators. The wind turbine generators were modeled off-line and replaced by a 200 MW proxy generator at the 345kV POI. The 299 MW GEN-2012-054 wind farm was also replaced by a proxy generator at the common POI. A high capacity continuously variable VAR generator with a voltage schedule of 1.0 PU was also modeled at the POI.

Table 4-1 and Table 4-2 indicate the pro-rata contribution to reactive capability attributed to GEN-2012-031 at the POI to maintain a scheduled voltage of 1.0 PU for base case and contingency conditions for the summer and winter peak cases provided. The contingencies for which the reactive compensation represents a net power factor less than 0.95% lag or lead are highlighted values in *italics*.

Table 4-1: P.F. at POI with VAR Generator, Summer Peak

Cont. No.	Voltage @ POI (pu)	Power Factor GEN-2012-031 @ POI				
		P	Q	MVA	PF	Lead /Lag
Base Case	1.00	200	54.9	207.4	96.44	Lag
FLT01	1.00	200	63	209.7	95.38	Lag
FLT03	1.00	200	70.3	212.0	94.34	Lag
FLT05	1.00	200	55.5	207.6	96.36	Lag
FLT07	1.00	200	56.9	207.9	96.19	Lag
FLT09	1.00	200	25.3	201.6	99.21	Lag
FLT11	1.00	200	21.7	201.2	99.42	Lag
FLT13	1.00	200	75.9	213.9	93.50	Lag
FLT15	1.00	200	76.6	214.2	93.38	Lag
FLT17	1.00	200	57.8	208.2	96.07	Lag
FLT19	1.00	200	71.5	212.4	94.16	Lag
FLT21	1.00	200	72.5	212.7	94.02	Lag
FLT23	1.00	200	55.1	207.5	96.40	Lag
FLT25	1.00	200	71.8	212.5	94.12	Lag
FLT27	1.00	200	74.2	213.3	93.75	Lag
FLT29	1.00	200	66	210.6	94.97	Lag
FLT31	1.00	200	60.1	208.8	95.78	Lag
FLT33	1.00	200	75.5	213.8	93.55	Lag
FLT35	1.00	200	56.6	207.9	96.22	Lag
FLT37	1.00	200	61	209.1	95.65	Lag
FLT39	1.00	200	55.1	207.5	96.40	Lag
FLT41	1.00	200	58.3	208.3	96.00	Lag
FLT43	1.00	200	54.9	207.4	96.43	Lag
FLT45	1.00	200	51.2	206.4	96.88	Lag
FLT47	1.00	200	66.7	210.8	94.87	Lag
FLT49	1.00	200	55.7	207.6	96.33	Lag
FLT51	1.00	200	55.1	207.5	96.41	Lag
FLT53	1.00	200	54.8	207.4	96.44	Lag
FLT54	1.00	200	56.7	207.9	96.20	Lag
FLT55	1.00	200	53.2	207.0	96.64	Lag
FLT56	1.00	200	57.5	208.1	96.11	Lag
FLT57	1.00	200	111.3	228.9	87.38	Lag
FLT58	1.00	200	56.6	207.9	96.22	Lag
FLT59	1.00	200	61.9	209.4	95.53	Lag
FLT60	1.00	200	55.2	207.5	96.40	Lag
FLT61	1.00	200	67.6	211.1	94.73	Lag

Table 4-2: P.F. at POI with VAR Generator, Winter Peak

Cont. No.	Voltage @ POI (pu)	Power Factor of Wind Generator GEN-2012-031 @ POI				
		P	Q	MVA	PF	Lead/Lag
Base Case	1.00	200	65.80	210.55	94.11	Lag
FLT01	1.00	200	71.90	212.53	94.11	Lag
FLT03	1.00	200	81.30	215.89	92.63	Lag
FLT05	1.00	200	68.30	211.34	94.63	Lag
FLT07	1.00	200	67.60	211.12	94.73	Lag
FLT09	1.00	200	28.50	202.02	99.00	Lag
FLT11	1.00	200	24.80	201.53	99.24	Lag
FLT13	1.00	200	91.10	219.77	91.00	Lag
FLT15	1.00	200	78.90	215.00	93.02	Lag
FLT17	1.00	200	66.50	210.77	94.89	Lag
FLT19	1.00	200	91.20	219.81	90.98	Lag
FLT21	1.00	200	84.00	216.92	92.20	Lag
FLT23	1.00	200	65.60	210.48	95.01	Lag
FLT25	1.00	200	81.80	216.08	92.56	Lag
FLT27	1.00	200	91.60	219.98	90.91	Lag
FLT29	1.00	200	80.60	215.63	92.74	Lag
FLT31	1.00	200	71.20	212.30	94.21	Lag
FLT33	1.00	200	89.30	219.03	91.32	Lag
FLT35	1.00	200	68.10	211.28	94.66	Lag
FLT37	1.00	200	71.20	212.30	94.21	Lag
FLT39	1.00	200	66.00	210.61	94.97	Lag
FLT41	1.00	200	68.90	211.54	94.54	Lag
FLT43	1.00	200	66.40	210.73	94.90	Lag
FLT45	1.00	200	60.70	209.01	95.69	Lag
FLT47	1.00	200	78.30	214.78	93.12	Lag
FLT49	1.00	200	66.50	210.77	94.89	Lag
FLT51	1.00	200	65.90	210.58	94.98	Lag
FLT53	1.00	200	65.70	210.51	95.00	Lag
FLT54	1.00	200	67.40	211.05	94.77	Lag
FLT55	1.00	200	60.20	208.86	95.76	Lag
FLT56	1.00	200	66.20	210.67	94.94	Lag
FLT57	1.00	200	127.50	237.18	84.32	Lag
FLT58	1.00	200	66.60	210.80	94.88	Lag
FLT59	1.00	200	72.20	212.63	94.06	Lag
FLT60	1.00	200	65.50	210.45	95.03	Lag
FLT61	1.00	200	78.20	214.74	93.13	Lag

5. VOLTAGE RECOVERY RESULTS

Dynamic simulations were performed using each fault noted in Section 2. All faults were cleared after five (5) cycles. Faulted transmission lines were reclosed into the fault 20 cycles after the initial clearing, then cleared and locked out after five (5) more cycles. Faulted transformers were not reclosed.

Voltage recovery as determined via dynamic simulation was checked against all contingencies. If the voltage recovers post-fault to a steady-state level consistent with the steady-state simulation, the generator interconnection is considered stable from a voltage standpoint.

In these dynamic simulations, real loads are modeled as constant current and reactive loads are modeled as constant admittance; i.e. MW loads are proportional to voltage and MVAR loads are proportional to voltage squared. In contrast, loads are modeled as constant MW and constant MVAR in steady-state simulations. Therefore, due to differences in load modeling, minor differences in voltages are to be expected between dynamic and steady-state simulations.

The dynamic simulation showed no generators was tripped during any of the contingencies tested. That is, the wind farm GEN-2012-031 meets FERC Order 661A (low voltage ride through and wind farm recovery to pre-fault voltage). Table 5-1 lists the post-fault voltages contingencies 1 to 20 at POI². (Summer peak pre-fault 0.9807 pu, Winter peak pre-fault 0.9768 pu).

Table 5-1 : Post-Fault Voltage Recovery by Dynamic Simulation

Fault No.	Voltage @ GEN-2012-031 POI	
	Summer Peak	Winter Peak
FLT01	0.9784	0.9744
FLT02	0.9779	0.9744
FLT03	0.9761	0.9712
FLT04	0.9759	0.9712
FLT05	0.9814	0.9758
FLT06	0.9815	0.9758
FLT07	0.9799	0.9758
FLT08	0.9804	0.9758
FLT09	0.9893	0.9884
FLT10	0.9903	0.9884
FLT11	0.9908	0.9895
FLT12	0.9903	0.9895
FLT13	0.9744	0.9673
FLT14	0.9744	0.9673
FLT15	0.9749	0.9725

² The PTI utility tool PSSECHOP was used to retrieve the post-fault voltage at the POI from the dynamic simulation channel output files.



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Fault No.	Voltage @ GEN-2012-031 POI	
	Summer Peak	Winter Peak
FLT16	0.9744	0.9724
FLT17	0.9794	0.9757
FLT18	0.9794	0.9756
FLT19	0.9759	0.9688
FLT20	0.9749	0.9688
FLT21	0.9756	0.9705
FLT22	0.9753	0.9704
FLT23	0.9752	0.9764
FLT24	0.9805	0.9762
FLT25	0.9805	0.9706
FLT26	0.9750	0.9704
FLT27	0.9749	0.9672
FLT28	0.9735	0.9670
FLT29	0.9734	0.9713
FLT30	0.9769	0.9713
FLT31	0.9768	0.9755
FLT32	0.9798	0.9769
FLT33	0.9798	0.9698
FLT34	0.9810	0.9698
FLT35	0.9752	0.9769
FLT36	0.9806	0.9768
FLT37	0.9807	0.9749
FLT38	0.9787	0.9748
FLT39	0.9786	0.9804
FLT40	0.9805	0.9766
FLT41	0.9795	0.9761
FLT42	0.9794	0.9754
FLT43	0.9805	0.9765
FLT44	0.9806	0.9764
FLT45	0.9813	0.9776
FLT46	0.9813	0.9775
FLT47	0.9768	0.9721
FLT48	0.9769	0.9719
FLT49	0.9802	0.9764
FLT50	0.9803	0.9762
FLT51	0.9810	0.9776
FLT52	0.9806	0.9767
FLT53	0.9805	0.9767
FLT54	0.9800	0.9762
FLT55	0.9810	0.9778
FLT56	0.9799	0.9765
FLT57	0.9629	0.9538
FLT58	0.9796	0.9756
FLT59	0.9777	0.9736
FLT60	0.9809	0.9776
FLT61	0.9760	0.9718
FLT62		0.9718

The plots of POI voltages for all contingencies are exhibited in the appendix.

6. TRANSIENT STABILITY RESULTS

Based on the dynamics results, GEN-2012-016 and GEN-2012-031 did not cause any new stability problems. For the faults studied, the three phase faults are relatively more severe than the corresponding single line to ground faults. No generators pulled out of synchronism with the grid and no generators tripped.

Below are the worst-case faults³ for the generator to be studied in Group 1, as determined by visual inspection of the rotor speed graphs from PSS/E dynamic analysis.

Table 6-1: Worst Faults for Dynamic Behavior within Group 1 (Summer Peak)

Generator	Worst Fault	Worst Fault Description
GEN-2012-016	FLT01-3Φ	G12-016-TAP (562286) to Woodward (515375) 345kV line, near GEN-2012-016
GEN-2012-031	FLT27-3Φ	Mathewson (560368) to Cimarron (514901) 345kV line, near Cimarron (oscillatory system)

³ Here the severity of the faults is measured by the oscillation amplitude of the wind turbine generator speed.

Figure 6-1 exhibits the rotor speed for GEN-2012-016 after applying the respective 3Φ faults to the winter peak case.

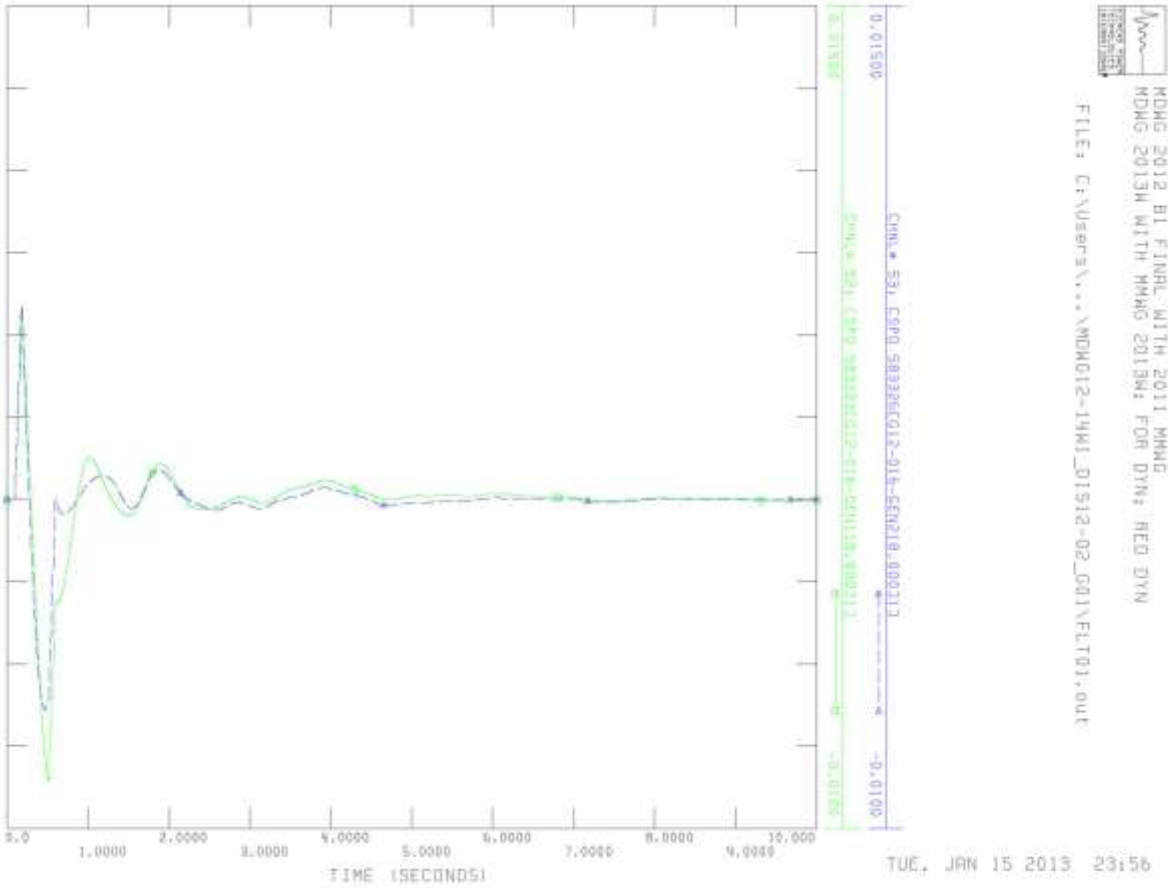


Figure 6-1: GEN-2012-016 Response to FLT01, Winter Peak

The simulation results indicated that GEN-2012-031 demonstrates speed oscillation at 1.7 Hz following a number of contingencies. The generator speed for 3- Φ faults 23 to 29 are presented in Figure 6-2.

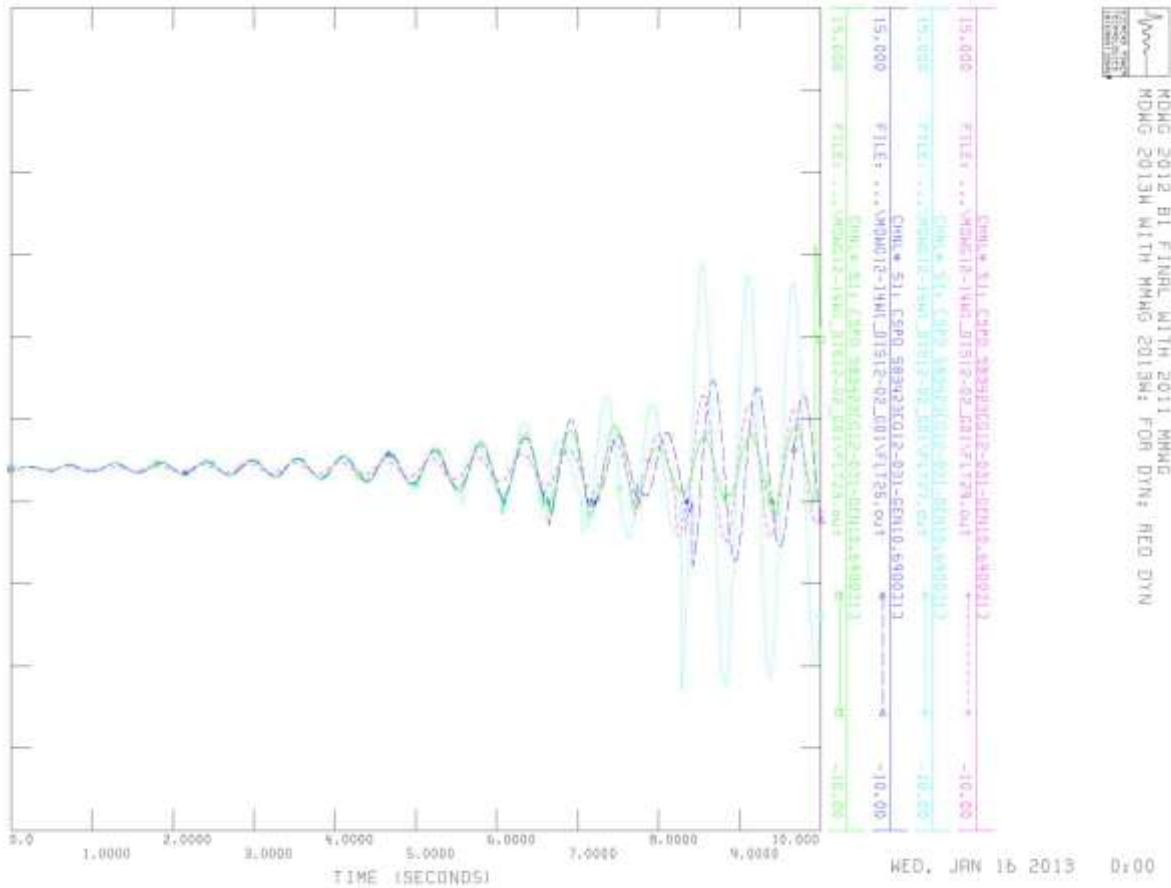


Figure 6-2: GEN-2012-031 Speed Response to FLT23 to 29 -3 Φ , Winter Peak

GEN-2012-031, power, POI voltage and speed for the fault 27 are presented in Figure 6-3. Although the speed demonstrates oscillatory response, the power and voltage at POI are reasonably flat and stable.

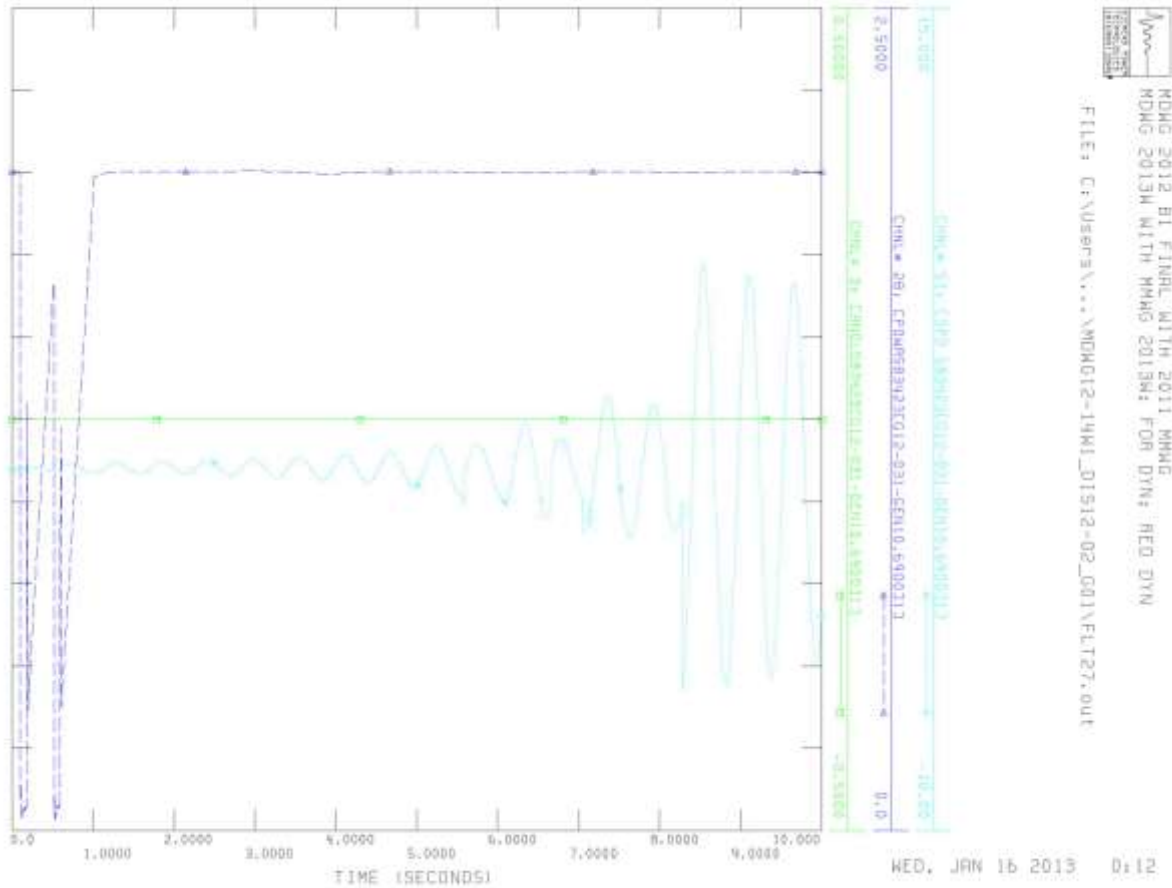


Figure 6-3: GEN-2012-031 Response to FLT27-3Φ, Winter Peak

The post-contingency portion of the Figure 6-3 is depicted in greater detail, using fine vertical scale, in Figure 6-4. As seen, both POI voltage and generated power demonstrate damped response and are reasonably stable performance.

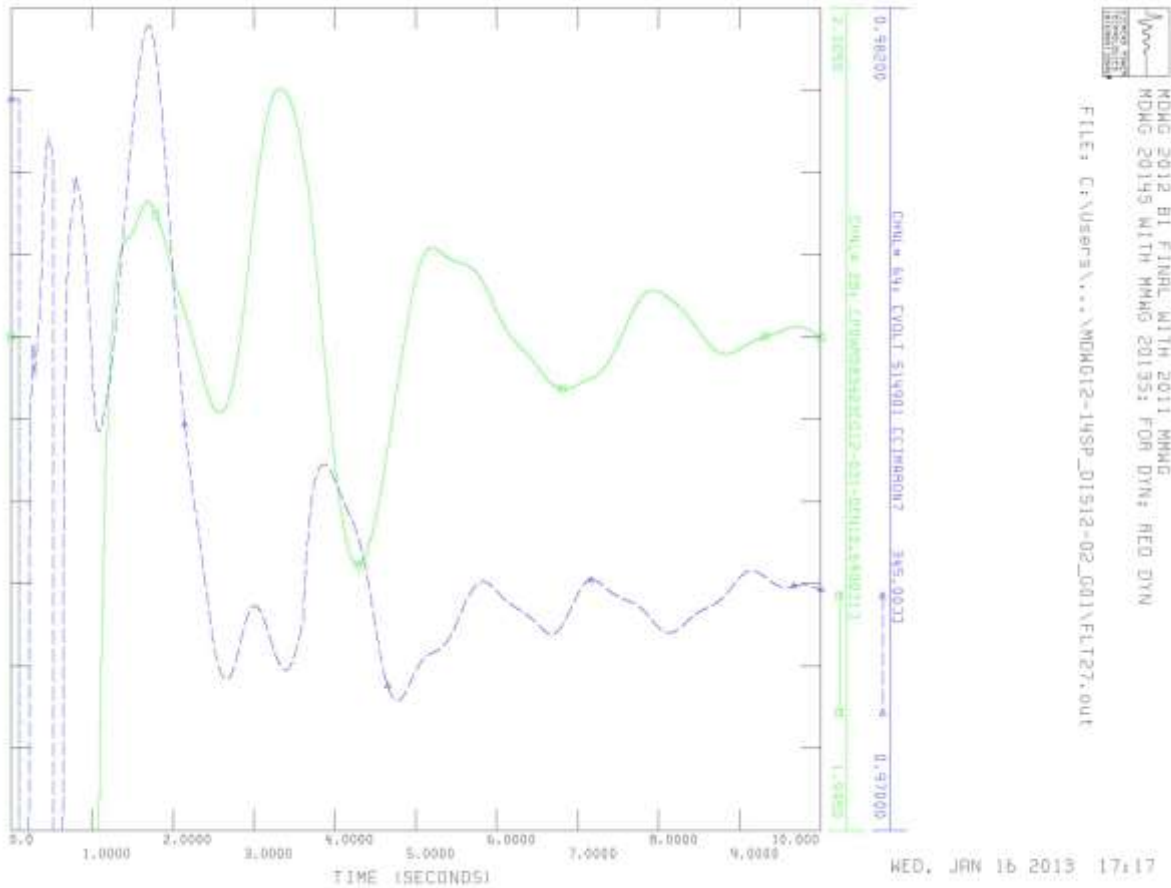


Figure 6-4: GEN-2012-031 Detailed Response to FLT27-3Φ, Winter Peak

This observed generator speed oscillation appears to be associated with frequency instability of the control circuitry. It is recommended to adjust the project parameters as such to provide sufficient damping to the observed oscillations

7. CONCLUSIONS

Based on the results of Group 1 studies, the following findings had been observed:

- VAR capability beyond a net power factor of 95% will be required to maintain a scheduled voltage of 1.0 PU at the POI GEN-2012-031.
- All generators appeared capable of meeting LVRT requirements. No generators tripped off line under the fault conditions.
- All wind farms had the capability of recovering to the pre-contingency voltage following the fault disturbance.
- Neither the rotor angles of the synchronous machines nor the speeds of the wind turbine generators in the studied areas suffered from instability.
- GEN-2012-031 speed shows oscillation at about 1.7Hz. It is recommended to adjust its control circuitry parameters to provide damping to this sustained oscillation. GEN-2012-031 generated power and POI voltage are reasonably stable.

8. Appendix

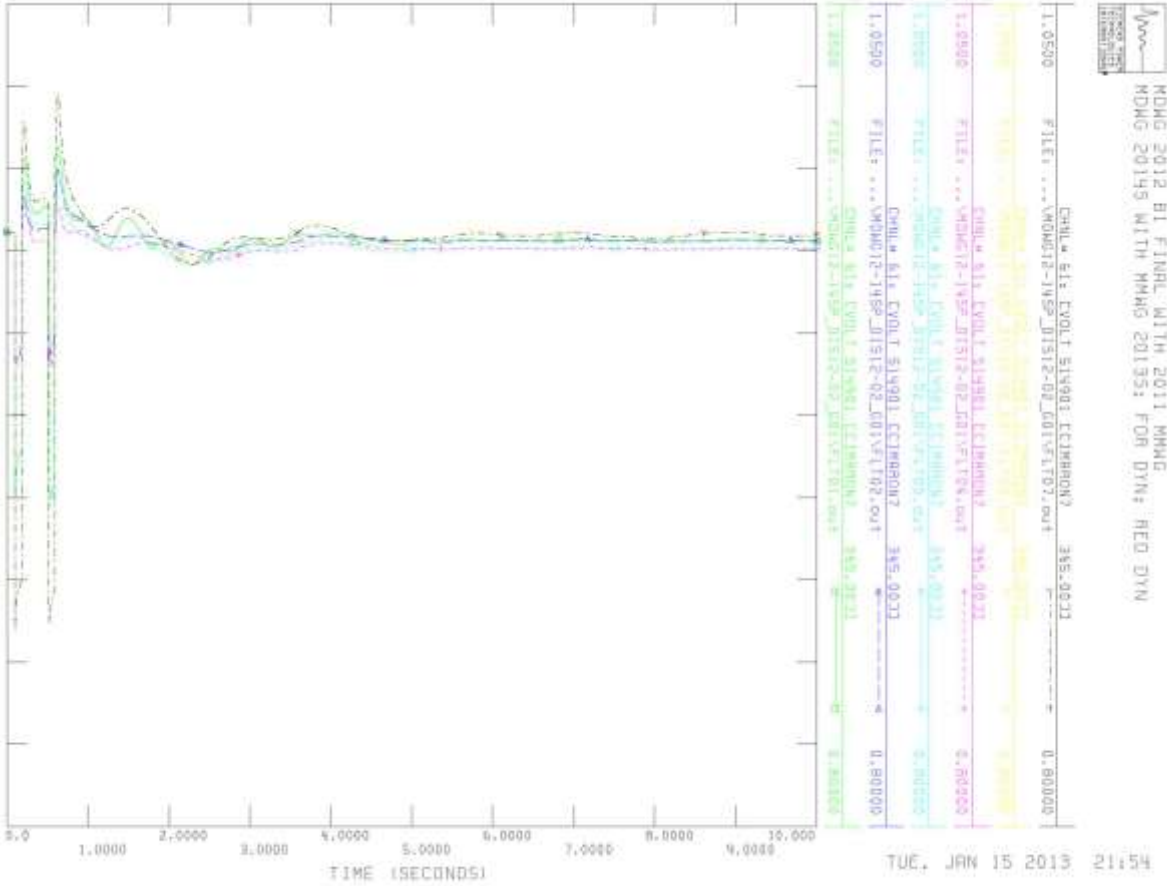


Figure 8-1: POI Voltage Recovery to FLT1 to FLT6, Summer Peak

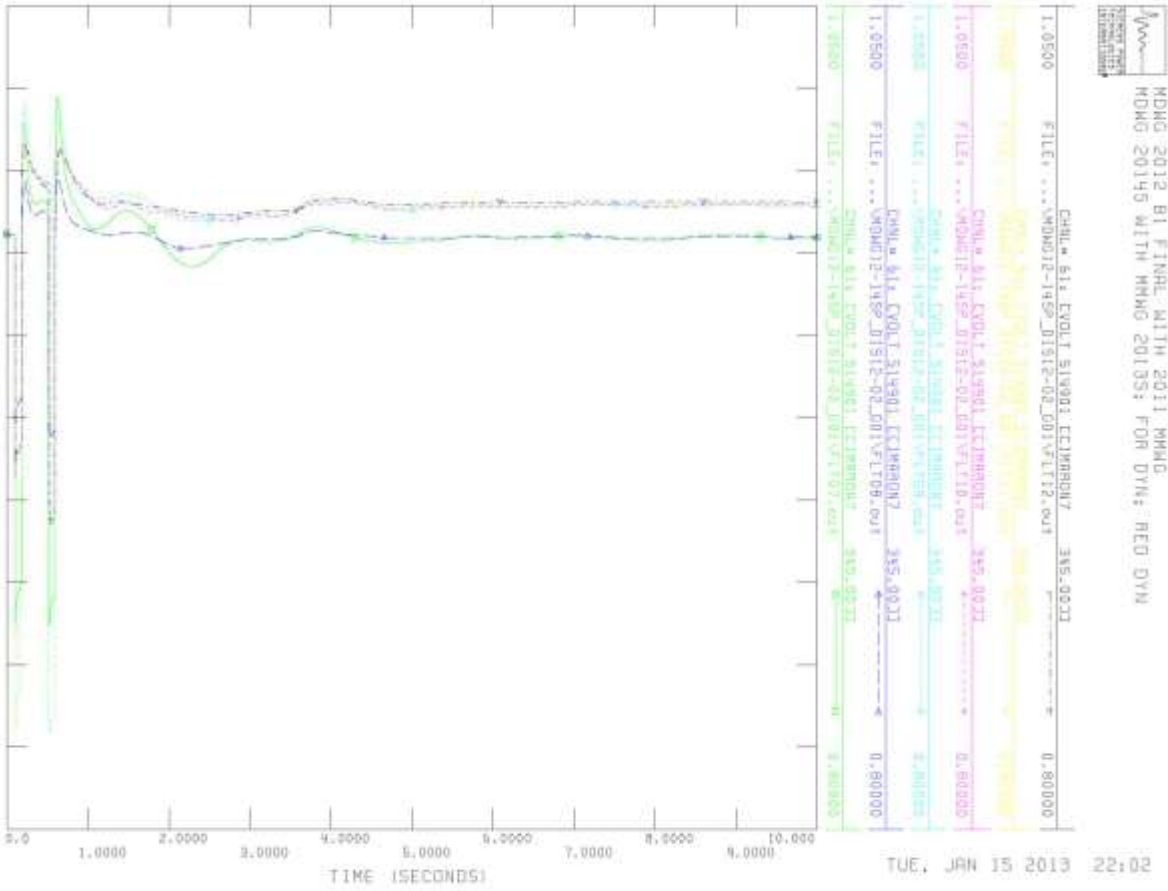


Figure 8-2: POI Voltage Recovery to FLT7 to FLT12, Summer Peak

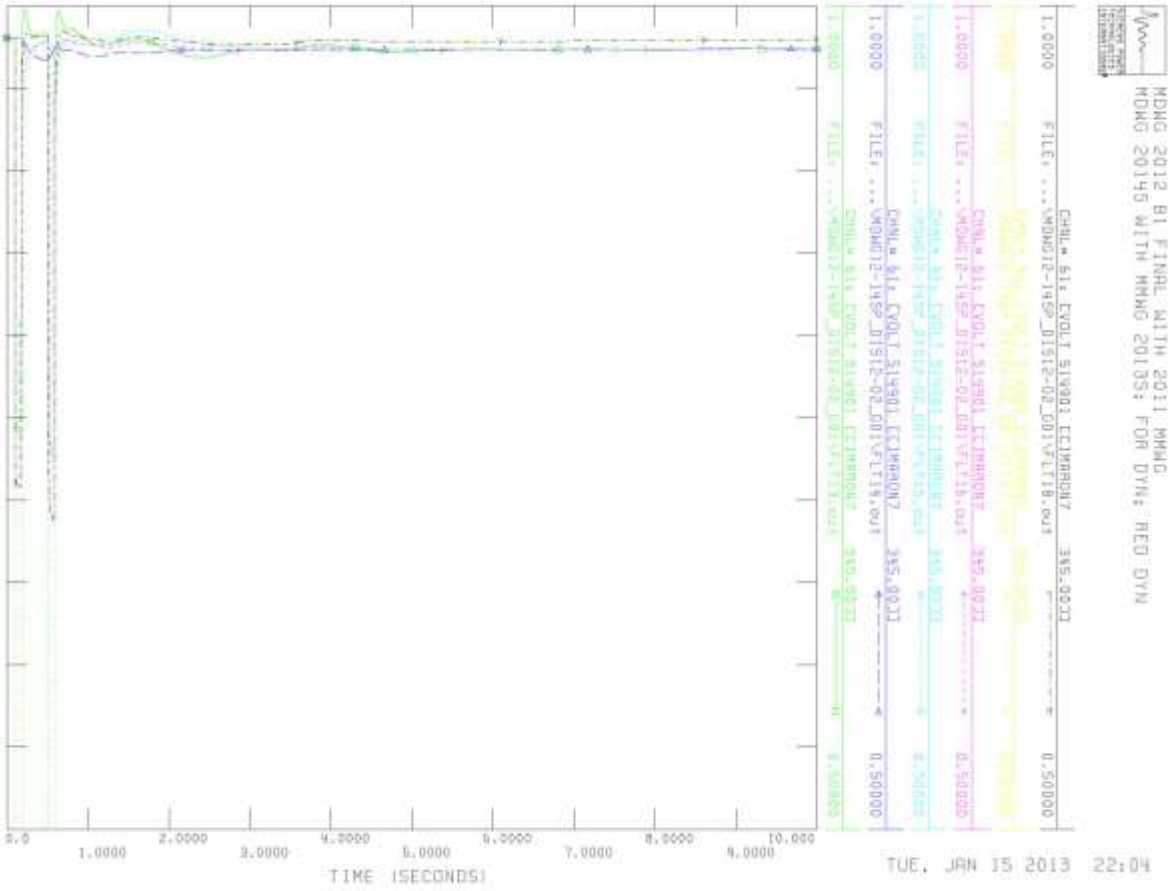


Figure 8-3: POI Voltage Recovery to FLT13 to FLT18, Summer Peak

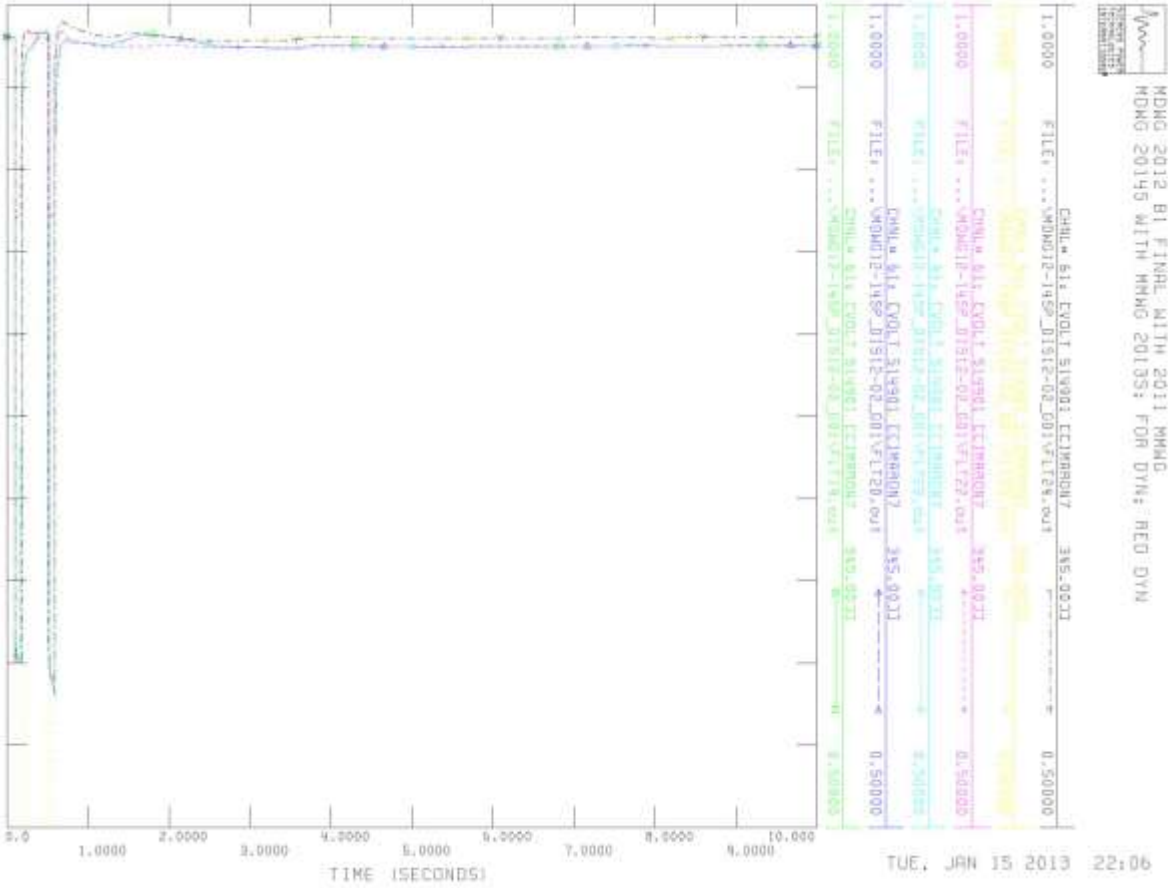


Figure 8-4: POI Voltage Recovery to FLT19 to FLT24, Summer Peak

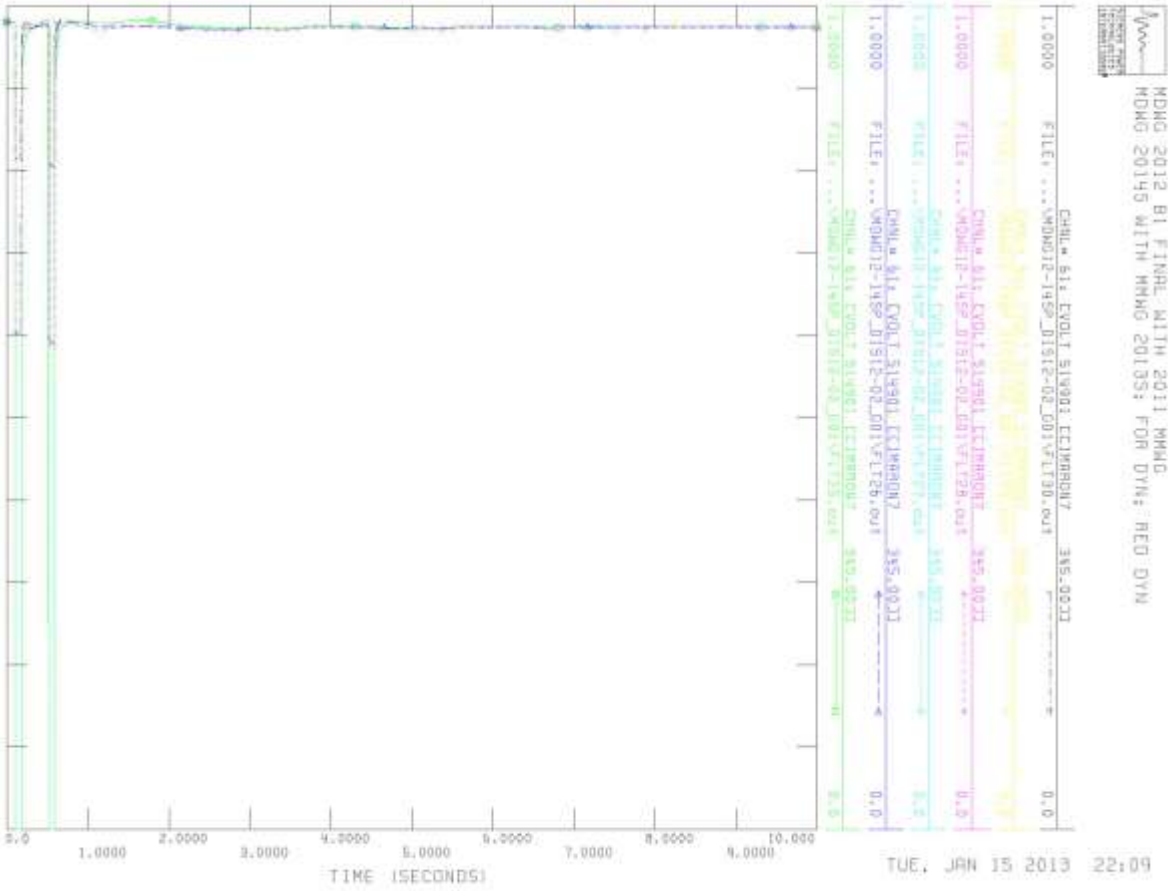


Figure 8-5: POI Voltage Recovery to FLT25 to FLT30, Summer Peak

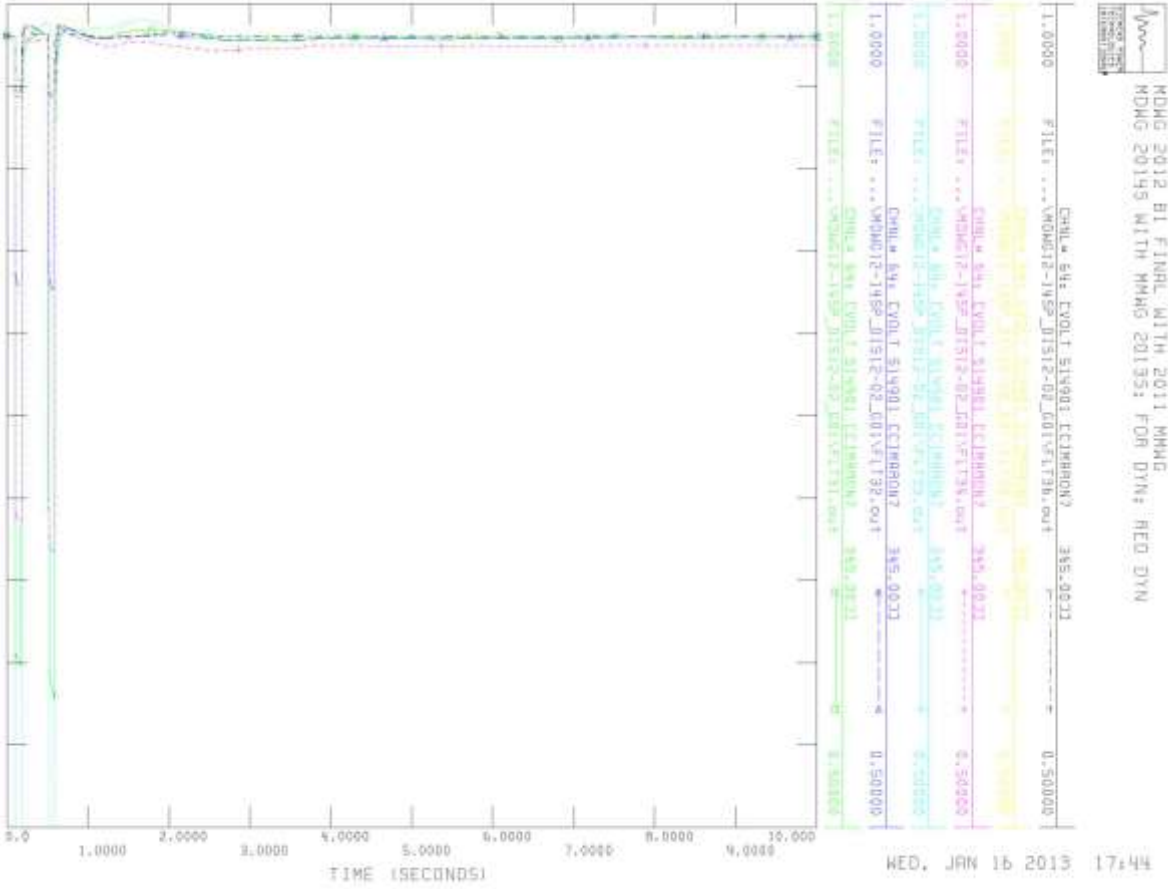


Figure 8-6: POI Voltage Recovery to FLT31 to FLT36, Summer Peak

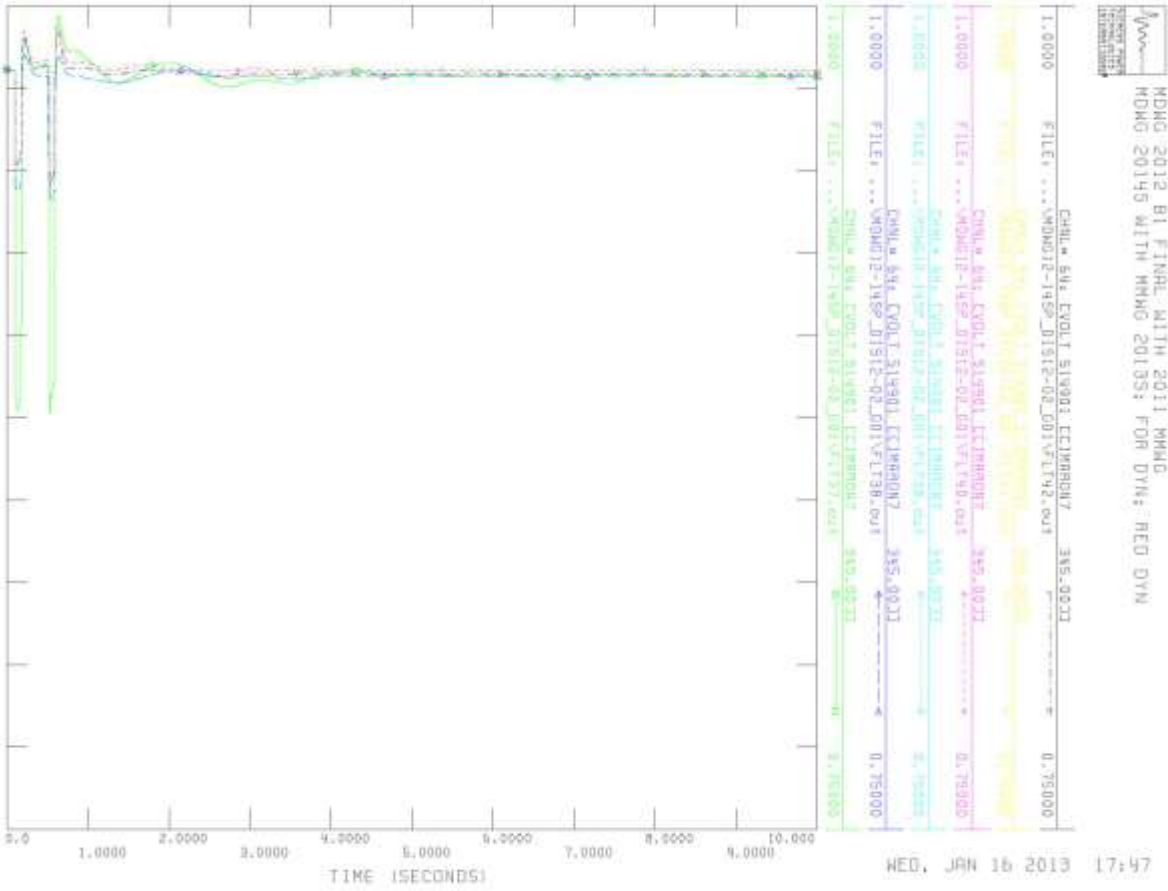


Figure 8-7: POI Voltage Recovery to FLT37 to FLT42, Summer Peak

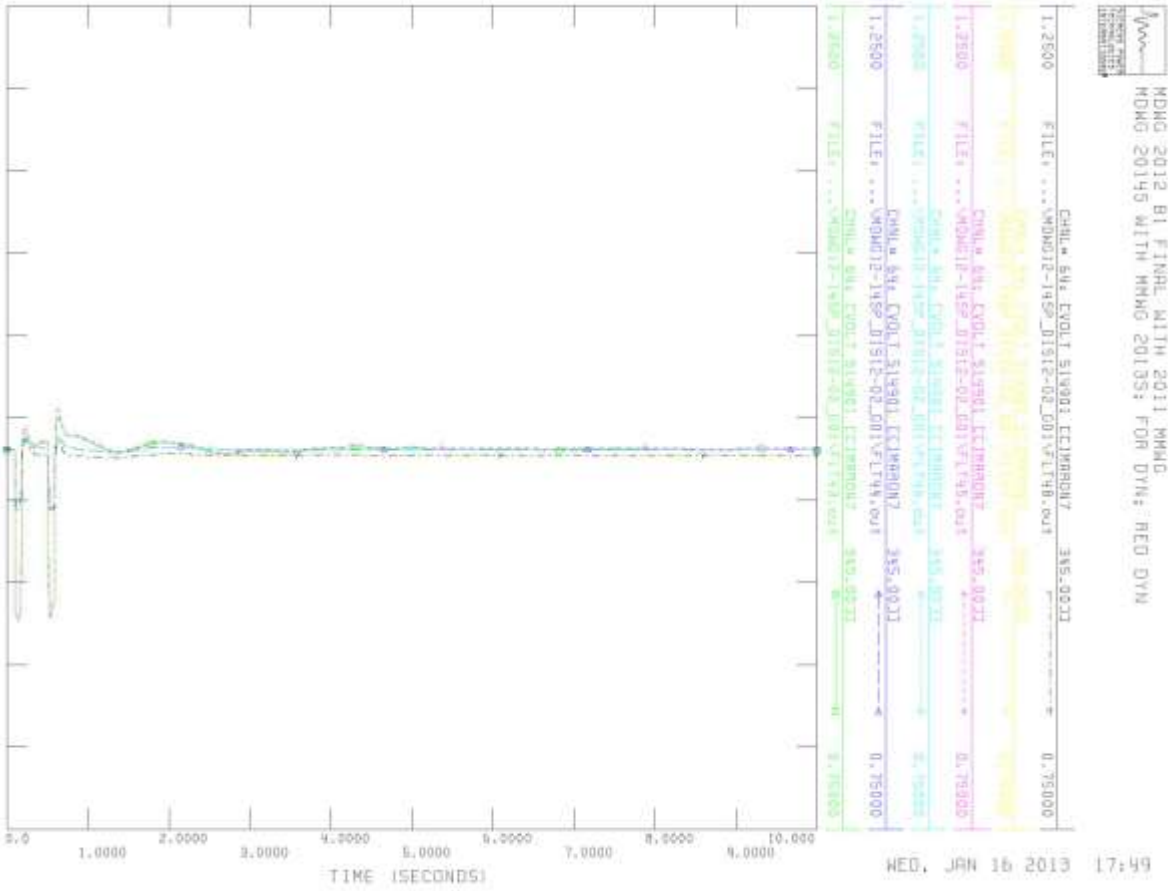


Figure 8-8: POI Voltage Recovery to FLT43 to FLT48, Summer Peak

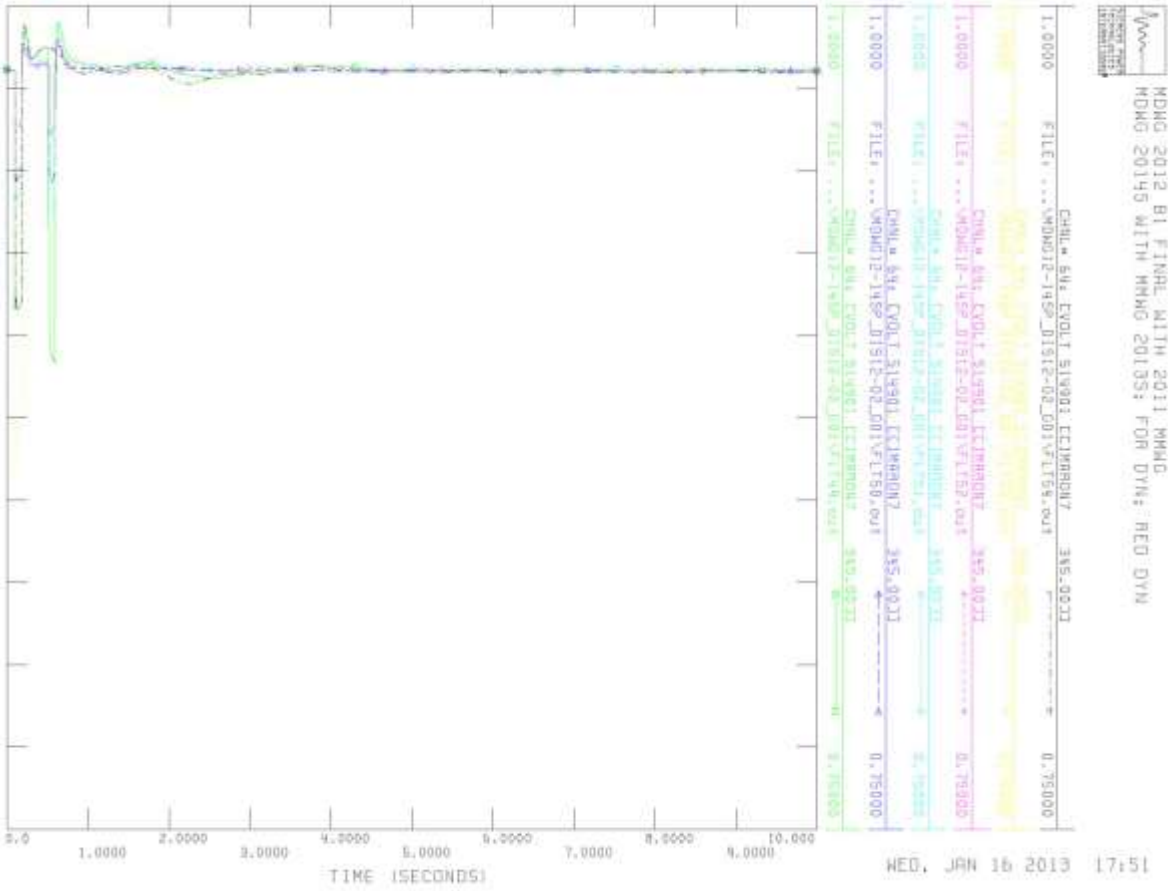


Figure 8-9: POI Voltage Recovery to FLT49 to FLT54, Summer Peak

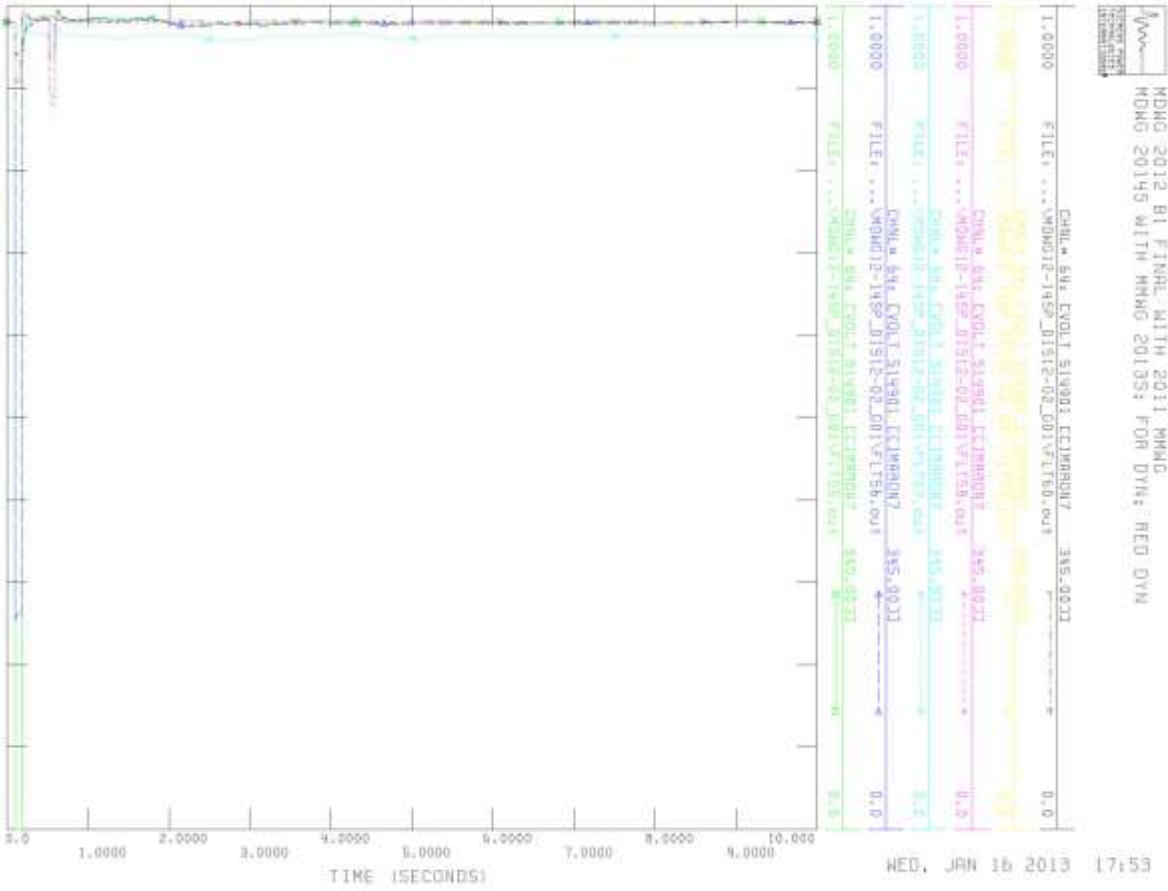


Figure 8-10: POI Voltage Recovery to FLT55 to FLT60, Summer Peak

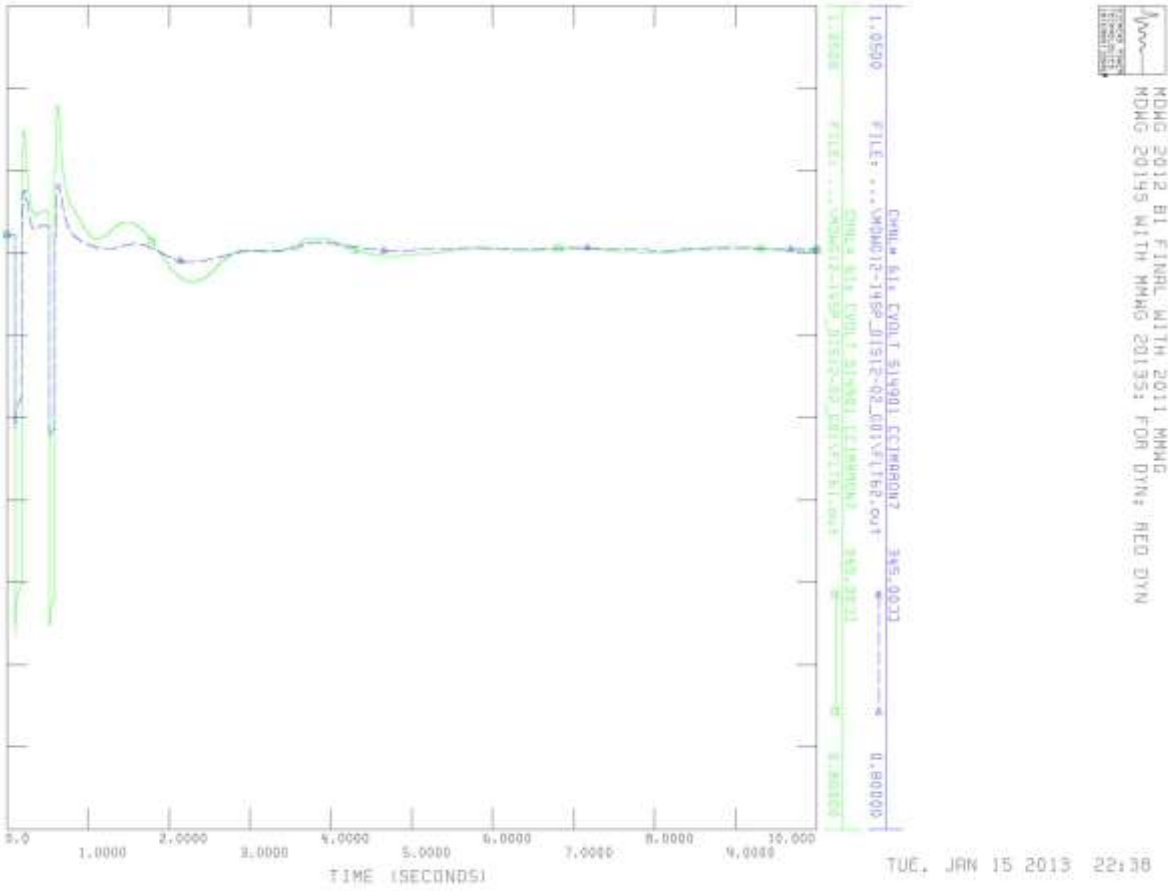


Figure 8-11: POI Voltage Recovery to FLT61 to FLT62, Summer Peak

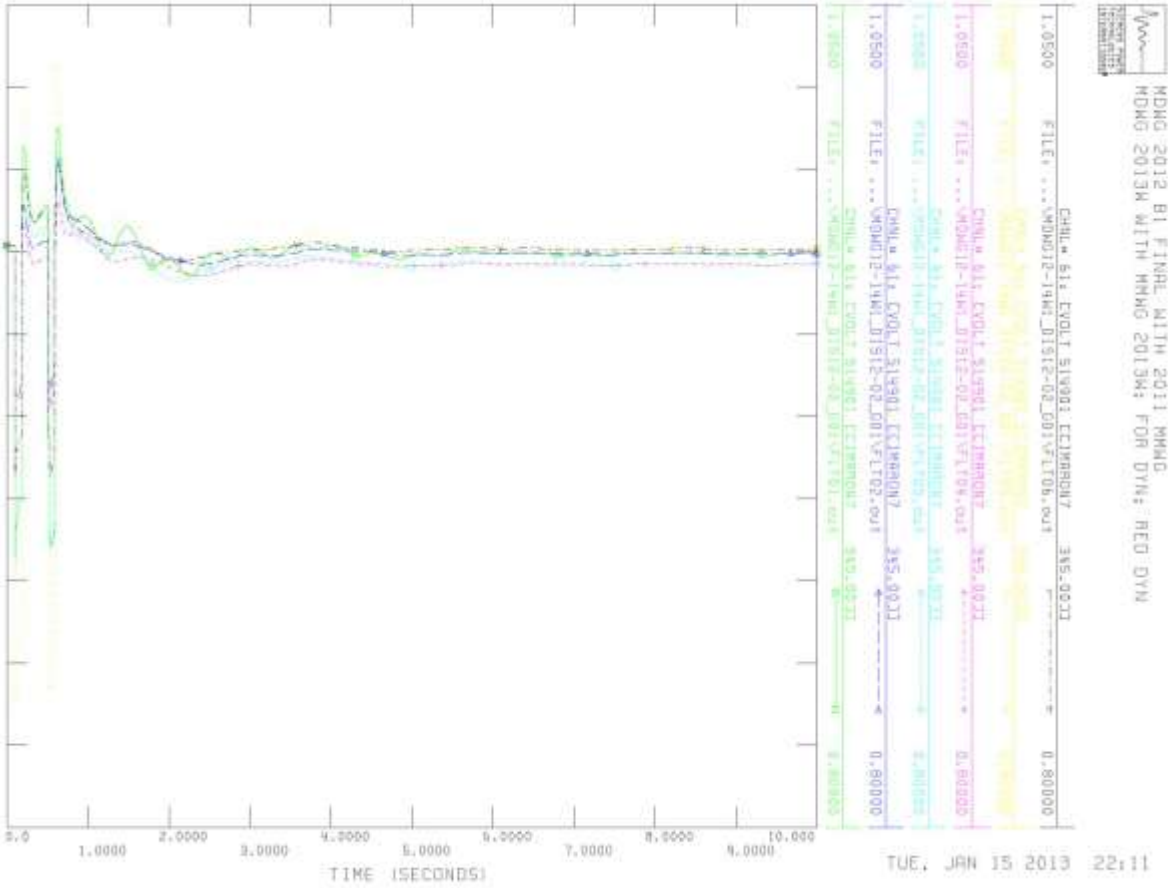


Figure 8-12: POI Voltage Recovery to FLT1 to FLT6, Winter Peak

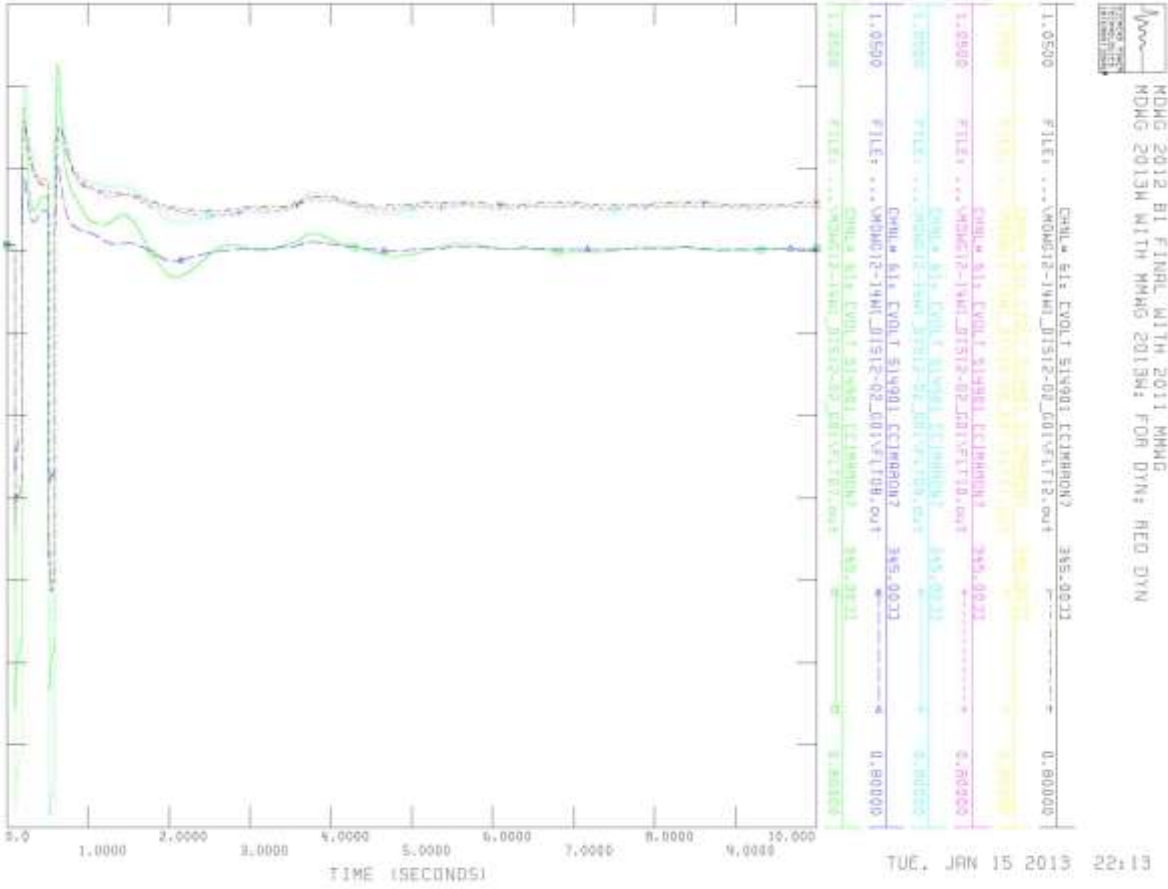


Figure 8-13: POI Voltage Recovery to FLT7 to FLT12, Winter Peak

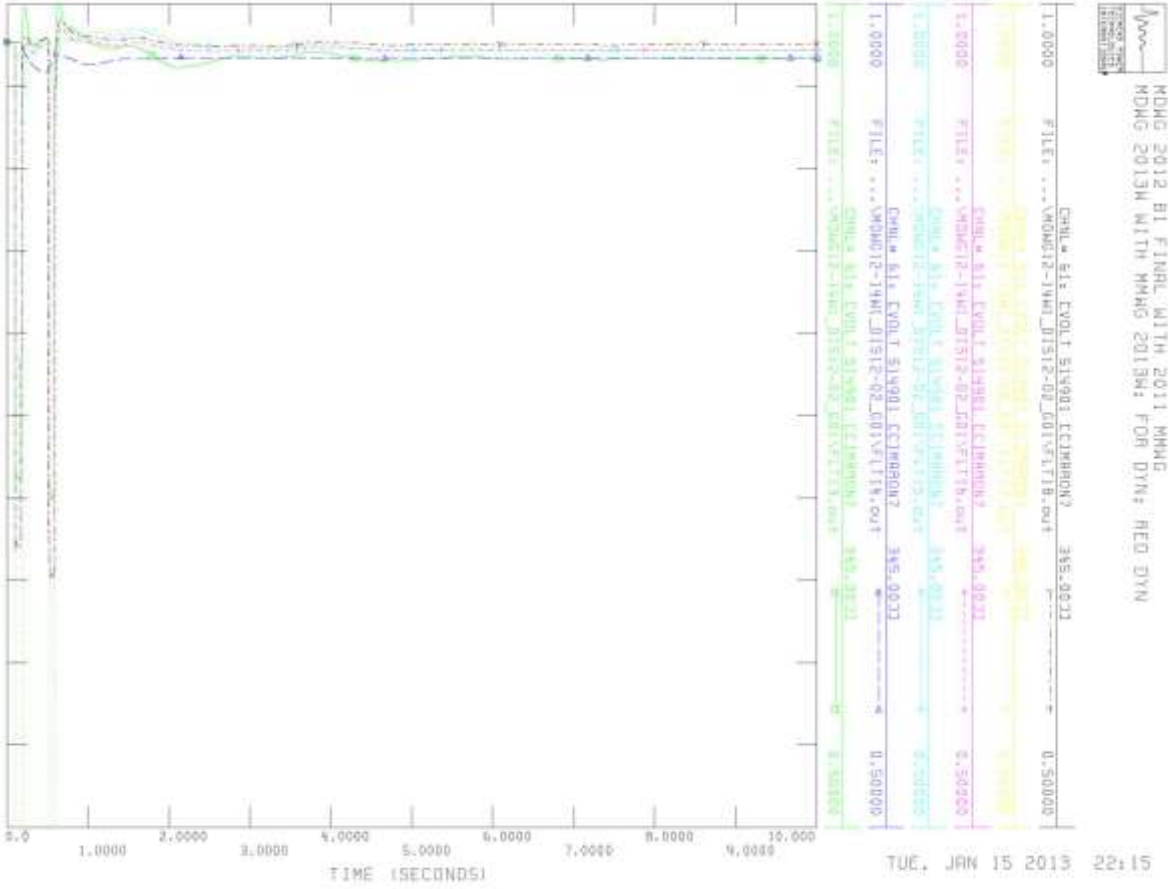


Figure 8-14: POI Voltage Recovery to FLT13 to FLT18, Winter Peak

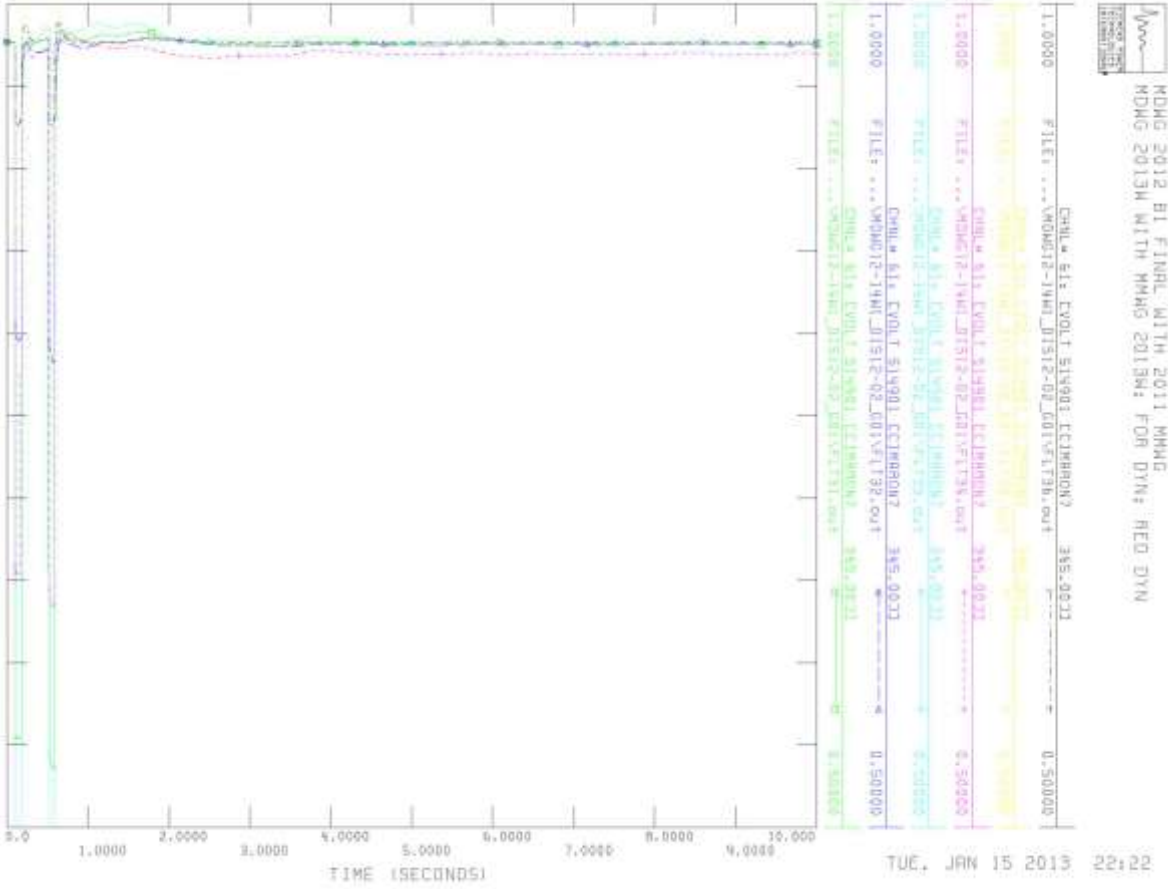


Figure 8-17: POI Voltage Recovery to FLT31 to FLT36, Winter Peak

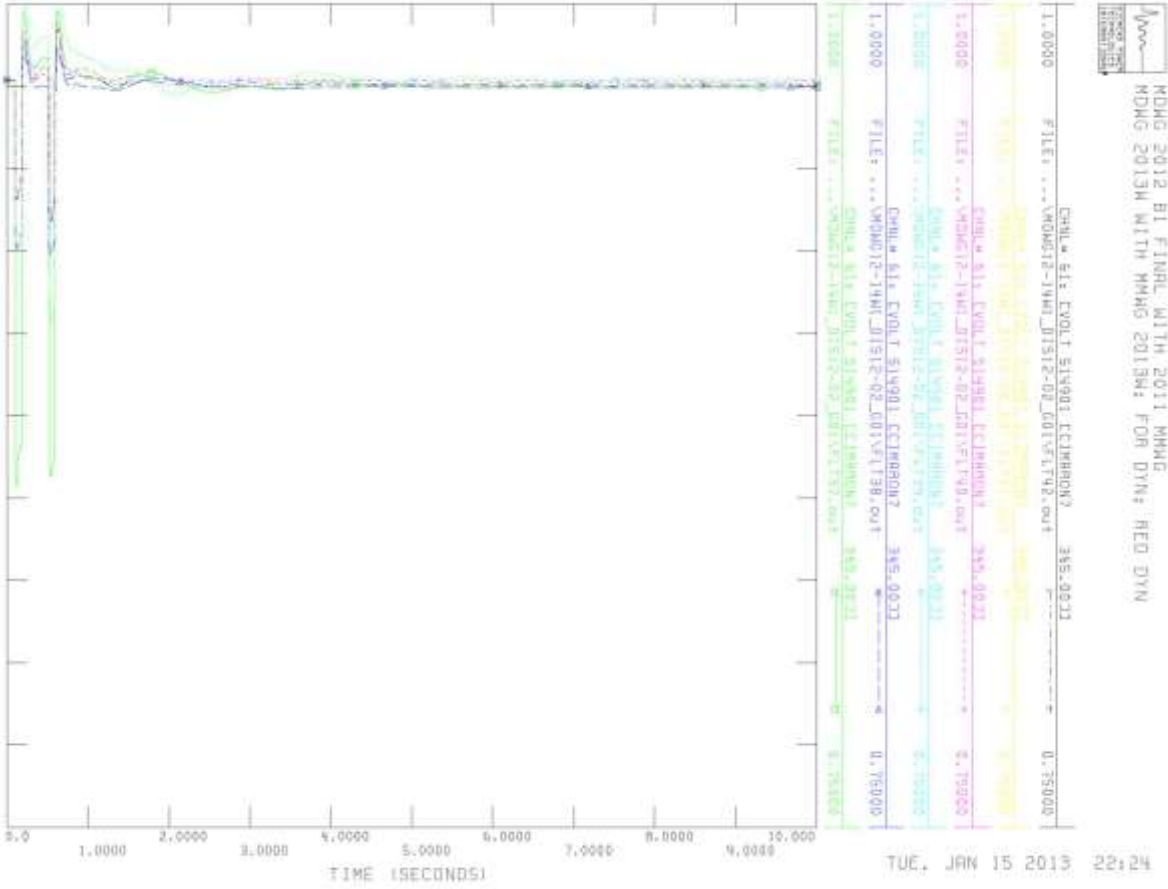


Figure 8-18: POI Voltage Recovery to FLT37 to FLT42, Winter Peak

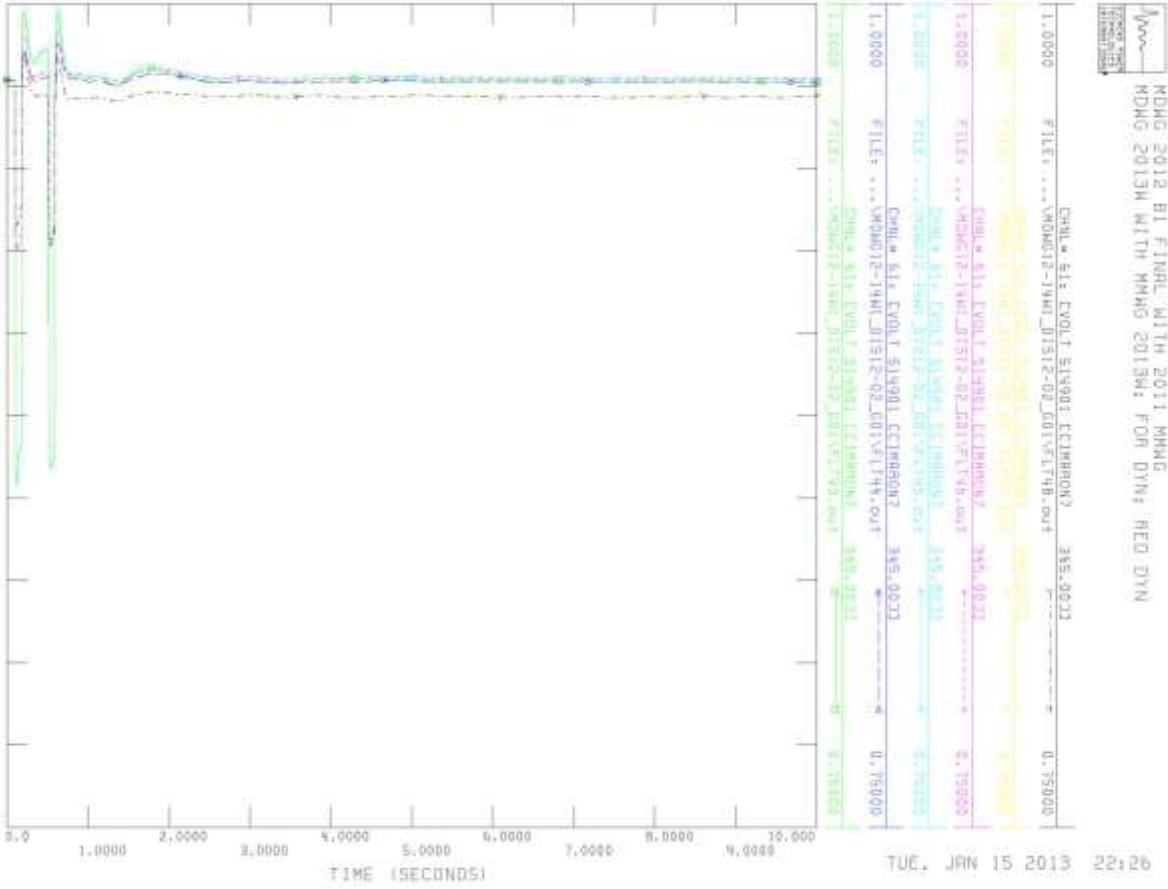


Figure 8-19: POI Voltage Recovery to FLT43 to FLT48, Winter Peak

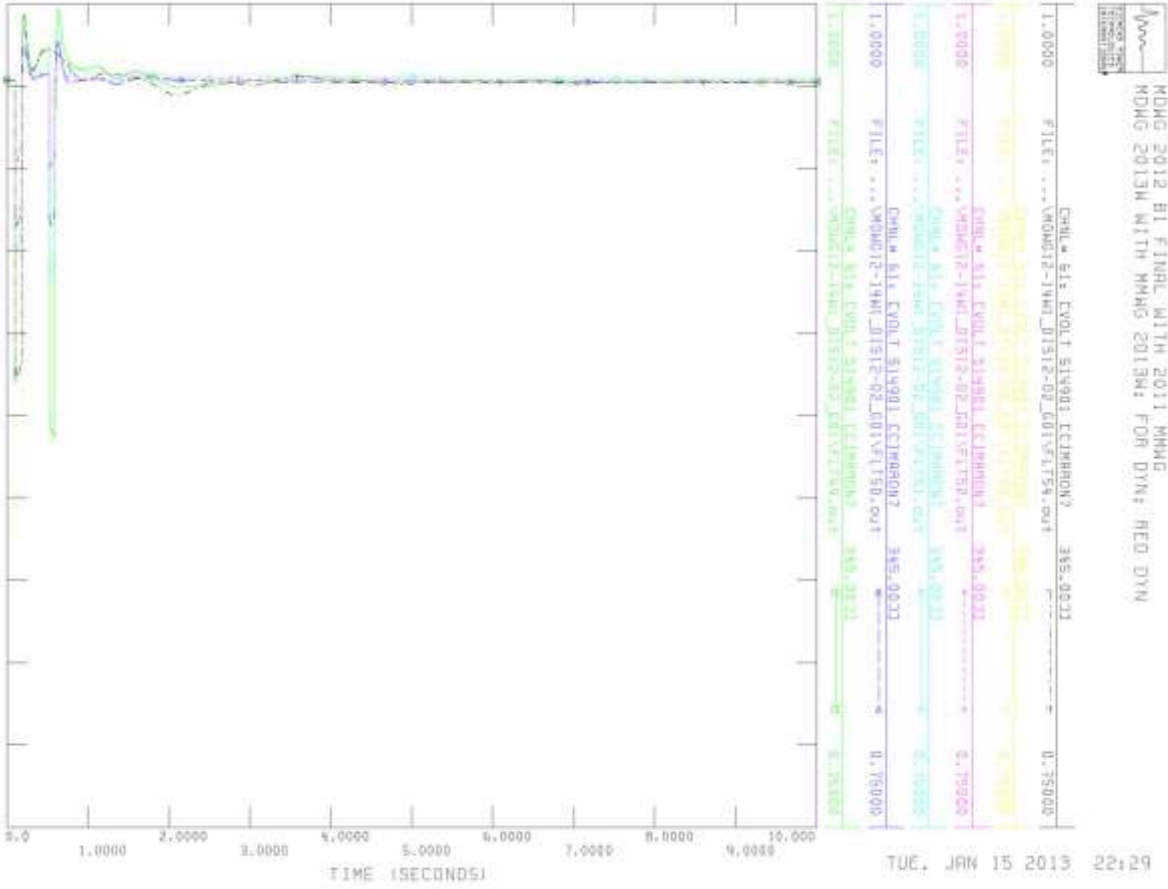


Figure 8-20: POI Voltage Recovery to FLT49 to FLT54, Winter Peak

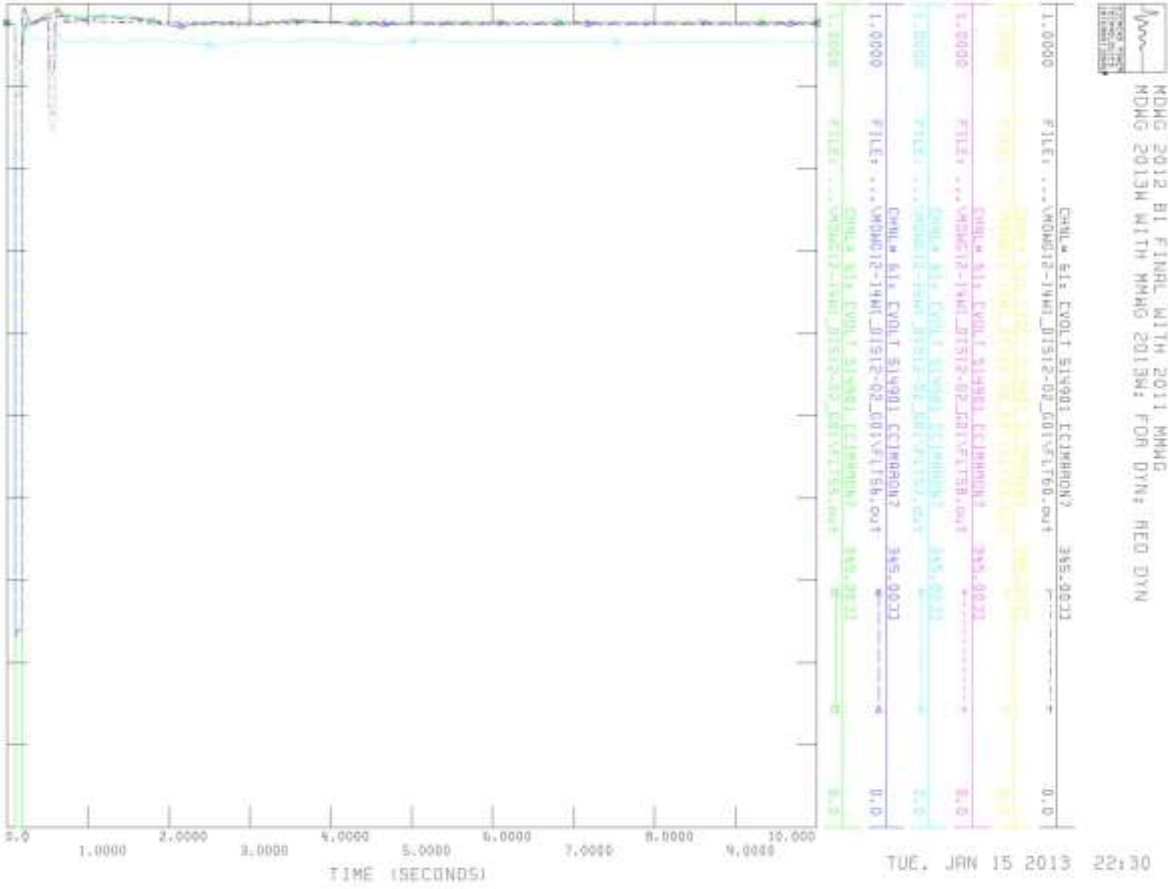


Figure 8-21: POI Voltage Recovery to FLT55 to FLT60, Winter Peak

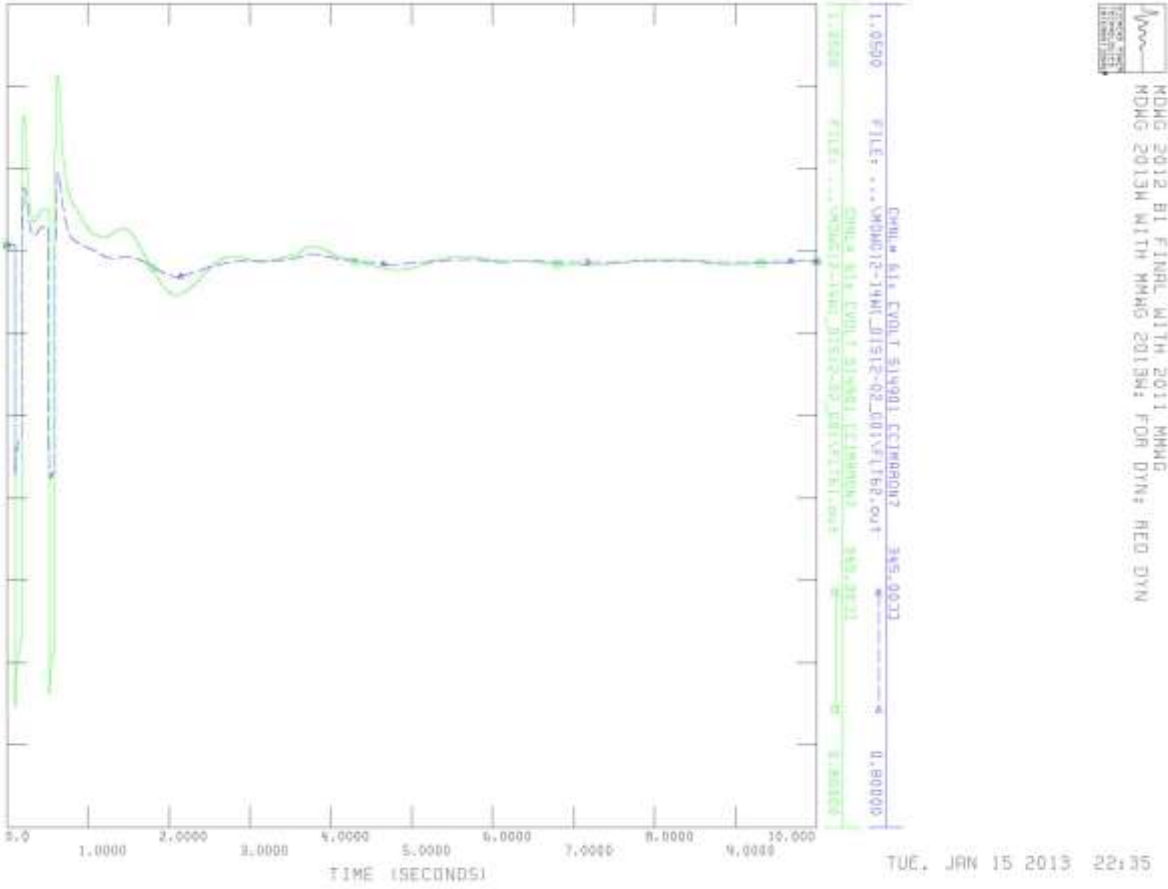


Figure 8-22: POI Voltage Recovery to FLT61 to FLT62, Winter Peak

J: Group 3 Dynamic Stability Analysis Report

See Mitsubishi report on next page.



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Southwest Power Pool, Inc. (SPP)

DISIS-2012-002 (Group 3) Definitive Impact Study

Final Report

**PXE-0651
Revision #01**

January 2013

**Submitted By:
Mitsubishi Electric Power Products, Inc. (MEPPI)
Power Systems Engineering Services Department
Warrendale, PA**



Power Systems Engineering
Services Department (PSES)

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Date: January 2013
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EXECUTIVE SUMMARY

SPP requested a Definitive Interconnection System Impact Study (DISIS). The DISIS required a Power Factor Analysis and a Stability Analysis detailing the impacts of the interconnecting projects as shown in Table ES-1.

Table ES-1
Interconnection Projects Evaluated

Request	Size (MW)	Turbine Model	Point of Interconnection (POI)
GEN-2012-024	180	Vestas V112-3.0MW	Clark County 345kV (539800)
GEN-2012-042	176/220	GENSAL	Spearville 345kV (531469)

SUMMARY OF POWER FACTOR ANALYSIS

The Power Factor Analysis shows that GEN-2012-024 has a power factor range 0.7857 lagging (supplying) to 1.0000 leading (absorbing) and GEN-2012-042 has a power factor range of 0.7049 lagging (supplying) to 0.9809 lagging (supplying).

SUMMARY OF STABILITY ANALYSIS

For the Summer Peak case, the Stability Analysis determined that there was no wind turbine tripping that occurs from interconnecting GEN-2012-024 and GEN-2012-042 at 100% output. Low voltage recovery was observed for several contingencies during summer peak conditions. The following contingencies observed bus voltages below 0.9 p.u. for the summer peak.

- Contingency #25: 3 phase fault on the Thistle to Wichita 345 kV line, ckt 1 and 2
- Contingency #26: 3 phase fault on the Thistle to Clark County 345 kV line, ckt 1 and 2
- Contingency #79: 3 phase fault on the Post Rock to G12-011 POI 345 kV line

For Contingency #25, 3 phase double circuit fault on the Thistle to Wichita 345 kV line, and Contingency #26, 3 phase double circuit fault on the Thistle to Clark County 345 kV line, there are low voltages observed that do not recover to 0.9 p.u. post-fault. After discussion with SPP, no mitigation was required for these double circuit faults.

Contingency #79 is a 3 phase fault on the Post Rock to G12-011 POI 345 kV line. After discussion with SPP, it was determined that adding a transmission line from Woodward 345 kV to Tatonga 345 kV would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of these mitigations, system stability and acceptable voltages were achieved.

For the Winter Peak case, the Stability Analysis determined that there was no wind turbine tripping that occurs from interconnecting GEN-2012-024 and GEN-2012-042 at 100% output. Low voltage recovery was observed for several contingencies during winter peak conditions. The following contingencies observed bus voltages below 0.9 p.u. for the winter peak.

- Contingency #25: 3 phase fault on the Thistle to Wichita 345 kV line, ckt 1 and 2
- Contingency #26: 3 phase fault on the Thistle to Clark County 345 kV line, ckt 1 and 2
- Contingency #53: 3 phase fault on the Woodward to G11-051-Tap 345 kV line
- Contingency #54: 1 phase fault on the Woodward to G11-051-Tap 345 kV line
- Contingency #79: 3 phase fault on the Post Rock to G12-011 POI 345 kV line

For Contingency #25, 3 phase double circuit fault on the Thistle to Wichita 345 kV line, and Contingency #26, 3 phase double circuit fault on the Thistle to Clark County 345 kV line, there are low voltages observed that do not recover to 0.9 p.u. post-fault. After discussion with SPP, no mitigation was required for these double circuit faults.

Contingency #53 and #54 are a 3 phase and 1 phase fault, respectively, on the Woodward to G11-051-Tap 345 kV line. After discussion with SPP, it was determined that adding a transmission line from Woodward 345 kV to Tatonga 345 kV would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of this mitigation, system stability and acceptable voltages were achieved.

Contingency #79 is a 3 phase fault on the Post Rock to G12-011 POI 345 kV line. After discussion with SPP, it was determined that adding a transmission line from Woodward 345 kV to Tatonga 345 kV and adding an 80 Mvar capacitor bank at the Great Bend 230 kV bus would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of these mitigations, system stability and acceptable voltages were achieved.

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SECTION 1: OBJECTIVES

The objective of this report is to provide Southwest Power Pool, Inc. (SPP) with the deliverables for the “GEN-2012-002 (Group 3) Definitive Impact Study.” SPP requested an Interconnection System Impact Study for GEN-2012-024 and GEN-2012-042 which requires a Power Factor Analysis, a Stability Analysis, and an Impact Study Report.

SECTION 2: BACKGROUND

The Siemens Power Technologies, Inc. PSS/E power system simulation program Version 32.2.0 was used for this study. SPP provided the stability database cases for summer peak and winter peak seasons and a list of contingencies to be examined. The model includes the study project and the previously queued projects as listed in Table 2-1 and Table 2-2, respectively. Refer to Appendix A for the steady-state and dynamic model data for the study projects. Power flow one-line diagrams of the GEN-2012-024 and GEN-2012-042 interconnection projects are shown in Figures 2-1 and 2-2, respectively.

The Power Factor analysis will determine the power factor at the point of interconnection for the wind interconnection project for pre-contingency and post-contingency conditions. Table 2-3 lists the contingencies developed from the three-phase fault definitions provided in the Group’s interconnection impact study request.

The Stability Analysis will determine the impacts of the new interconnecting project on the stability and voltage recovery of the nearby system and the ability of the interconnecting project to meet FERC Order 661A. If problems with stability or voltage recovery are identified, the need for reactive compensation or system upgrades will be investigated. Three-phase and single-phase faults will be examined as listed in Table 2-3.

**Table 2-1
Interconnection Projects Evaluated**

Request	Size (MW)	Turbine Model	Point of Interconnection (POI)
GEN-2012-024	180	Vestas V112-3.0MW	Clark County 345kV (539800)
GEN-2012-042	176/220	GENSAL	Spearville 345kV (531469)

**Table 2-2
Previously Queued Nearby Interconnection Projects Included**

Request	Size (MW)	Turbine Model	Point of Interconnection (POI)
GEN-2001-039A	104	GE 1.6MW	Shooting Star 115kV (539763)
GEN-2002-025A	150	GE 1.5 MW	Spearville 230kV (539695)
GEN-2004-014	154.5	GE 1.5 MW	Spearville 230kV (539695)
GEN-2005-012	250.7	Siemens 2.3MW	Spearville 345kV (531469)
GEN-2006-006	205.5	GE 1.5 MW	Spearville 345kV (531469)
GEN-2006-021	100	Clipper 2.5MW	Flat Ridge 138kV (539638)
GEN-2006-022	150	Clipper 2.5MW	Pratt 115kV (539687)
GEN-2007-038	200	Clipper 2.5MW	Spearville 345kV (531469)
GEN-2007-040	200.1	Siemens 2.3MW	Buckner 345kV (531501)
GEN-2008-018	405	GE 1.5 MW	Finney 345kV (523853)
GEN-2008-079	98.9	Siemens 2.3MW	Tap on Cudahy – Fort Dodge 115kV line (560229)
GEN-2008-124	200.1	Siemens 2.3MW	Spearville 345kV (531469)
GEN-2010-009	165.6	Siemens 2.3MW	Buckner 345kV (531501)
GEN-2010-015	200.1	Siemens 2.3MW	Spearville 345kV (531469)

**Table 2-2 (Continued)
Previously Queued Nearby Interconnection Projects Included**

Request	Size (MW)	Turbine Model	Point of Interconnection (POI)
GEN-2010-029	450	Vestas V90 1.8MW	Spearville 345kV (531469)
GEN-2010-045	197.8	Siemens 2.3MW	Buckner 345kV (531501)
GEN-2010-061	179.4	Siemens 2.3MW	Tap on Spearville – Post Rock 345kV line (G11-017 POI, 560242)
GEN-2011-008	600	GE 1.6MW	Clark County 345kV (539800)
GEN-2011-016	200.1	Siemens 2.3MW	Spearville 345kV (531469)
GEN-2011-017	299	Siemens 2.3MW	Tap on Spearville – Post Rock 345kV line (G11-017 POI, 560242)
GEN-2011-023	299	Siemens 2.3MW	Clark County 345kV (539800)
GEN-2011-043	149.5	Siemens 2.3MW	Thistle 345kV (539801)
GEN-2011-044	149.5	Siemens 2.3MW	Thistle 345kV (539801)
GEN-2012-007	96/120	GENSAL	Tap on Hickock – Satanta 115kV (562116)
GEN-2012-011	200	GE 1.6MW	Tap on Spearville – Post Rock 345kV line (G12-011POI, 562334)
ASGI-2012-006	20.74/21.21	GENSAL	Tap on Rolla – Hugoton 69kV (562114)

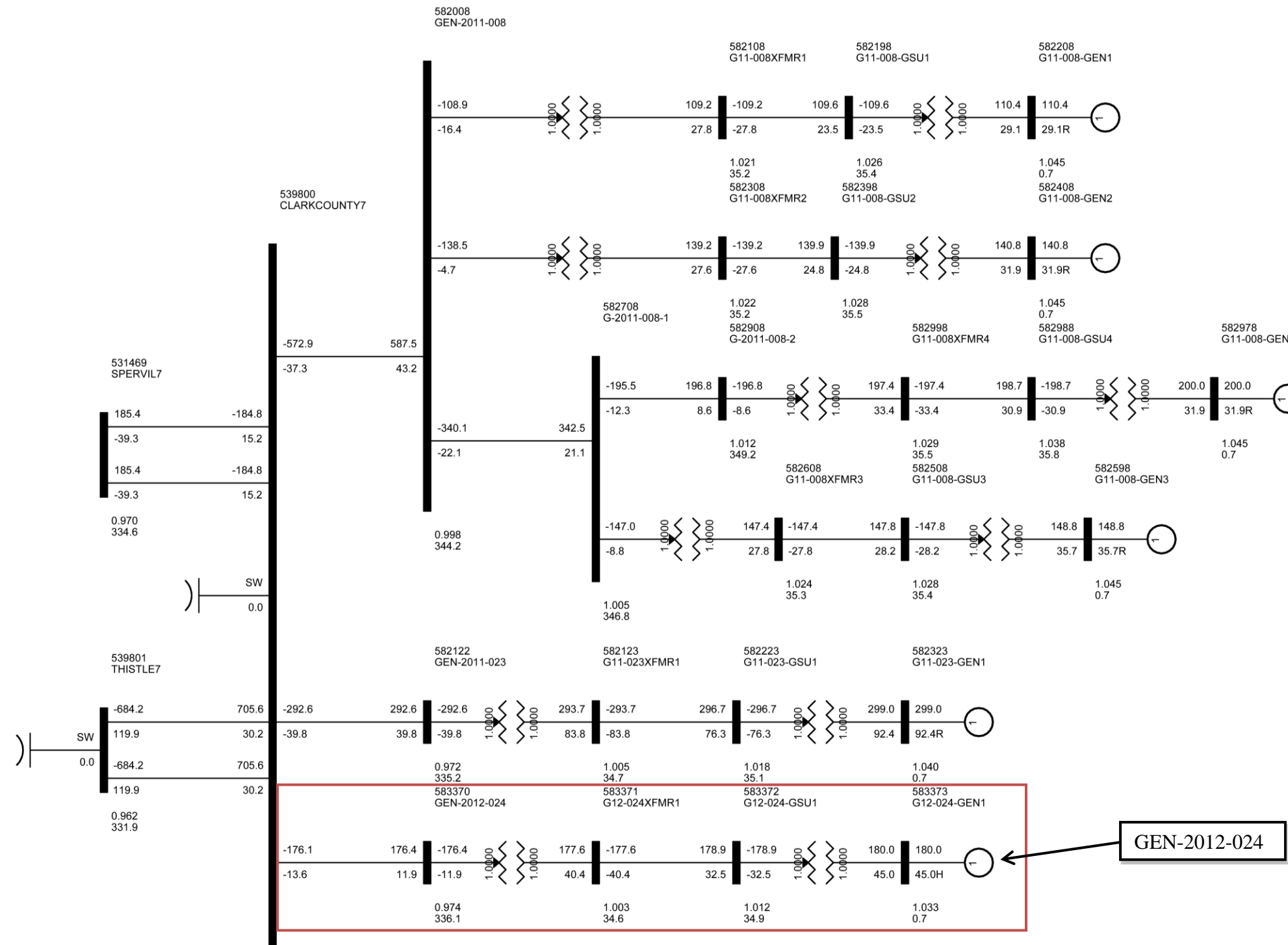


Figure 2-1. Power flow one-line diagram for interconnection project GEN-2012-024 (180 MW).



Table 2-3
Case List with Contingency Description

Ref. No.	Case Name	Description
1	FLT01-3PH	3 phase fault on the G11-017 POI (560242) to G12-011POI (562334) 345kV line, near G11-017 POI. a. Apply fault at the G11-017 POI 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
2	FLT02-1PH	<i>Single phase fault and sequence like previous</i>
3	FLT03-3PH	3 phase fault on the G11-017 POI (560242) to Spearville (531469) 345kV line, near G11-017 POI. a. Apply fault at the G11-017 POI 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
4	FLT04-1PH	<i>Single phase fault and sequence like previous</i>
5	FLT05-3PH	3 phase fault on Postrock (530583) to Axtell (640065) 345kV line, near Postrock. a. Apply fault at the Postrock 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
6	FLT06-1PH	<i>Single phase fault and sequence like previous</i>
7	FLT07-3PH	3 phase fault on Spearville (531469) to Buckner (531501) 345kV line, near Spearville. a. Apply fault at the Spearville 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
8	FLT08-1PH	<i>Single phase fault and sequence like previous</i>
9	FLT09-3PH	3 phase fault on Holcomb (531449) to Finney (523853) 345kV line, ckt1, near Holcomb. a. Apply fault at the Holcomb 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
10	FLT10-1PH	<i>Single phase fault and sequence like previous</i>
11	FLT11-3PH (see note at end of table)	3 phase fault on Spearville (531469) to Clark County (539800) 345kV line, ckt1, near Spearville. a. Apply fault at the Spearville 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
12	FLT12-1PH	<i>Single phase fault and sequence like previous</i>
13	FLT13-3PH	3 phase fault on Buckner (531501) to Holcomb (531449) 345kV line, near Buckner. a. Apply fault at the Buckner 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
14	FLT14-1PH	<i>Single phase fault and sequence like previous</i>
15	FLT15-3PH	3 phase fault on Buckner (531501) to Beaver County (580500) 345kV line, near Buckner. a. Apply fault at the Buckner 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
16	FLT16-1PH	<i>Single phase fault and sequence like previous</i>





Table 2-3 (Continued)
Case List with Contingency Description

Ref. No.	Case Name	Description
17	FLT17-3PH (see note at end of table)	3 phase fault on Thistle (539801) to Woodward (515375) 345kV line, ckt1, near Thistle. a. Apply fault at the Thistle 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
18	FLT18-1PH	<i>Single phase fault and sequence like previous</i>
19	FLT19-3PH (see note at end of table)	3 phase fault on Thistle (539801) to Wichita (532796) 345kV line, ckt1, near Thistle. a. Apply fault at the Thistle 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
20	FLT20-1PH	<i>Single phase fault and sequence like previous</i>
21	FLT21-3PH (see note at end of table)	3 phase fault on Thistle (539801) to Clark County (539800) 345kV line, ckt1, near Thistle. a. Apply fault at the Thistle 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
22	FLT22-1PH	<i>Single phase fault and sequence like previous</i>
23	FLT23-3PH	3 phase fault on Thistle (539801) to G12-016-TAP (562286) 345kV line, ckt1, near Thistle. a. Apply fault at the Thistle 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
24	FLT24-1PH	<i>Single phase fault and sequence like previous</i>
25	FLT25-3PH (see note at end of table)	3 phase fault on Thistle (539801) to Wichita (532796) 345kV line, ckt1&2, near Thistle. a. Apply fault at the Thistle 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
26	FLT26-3PH (see note at end of table)	3 phase fault on Thistle (539801) to Clark County (539800) 345kV line, ckt1&2, near Thistle. a. Apply fault at the Thistle 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
27	FLT27-3PH	3 phase fault on Beaver County (580500) to Hitchland (523097) 345kV line, ckt1&2, near Beaver County. a. Apply fault at the Beaver County 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
28	FLT28-3PH (see note at end of table)	3 phase fault on Spearville (531469) to Clark County (539800) 345kV line, ckt1&2, near Spearville. a. Apply fault at the Spearville 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
29	FLT29-3PH	3 phase fault on the Thistle (539801) 345kV to Thistle (539804) 138kV/(539802) 13.8kV transformer near the 138kV bus. a. Apply fault at the Thistle 138kVbus. b. Clear fault after 5 cycles and trip the faulted transformer.
30	FLT30-3PH	3 phase fault on the Postrock (530583) 345kV to Postrock (530584) 138kV/(530673) 13.8kV transformer near the 138kV bus. a. Apply fault at the Postrock 138kVbus. b. Clear fault after 5 cycles and trip the faulted transformer.





Table 2-3 (Continued)
Case List with Contingency Description

Ref. No.	Case Name	Description
31	FLT31-3PH	3 phase fault on the Spearville (531469) 345kV to Spearville (539695) 230kV/(531468) 13.8 transformer near the 230kV bus. a. Apply fault at the Spearville 230kV bus. b. Clear fault after 5 cycles and trip the faulted transformer.
32	FLT32-3PH	3 phase fault on Holcomb (531448) to Jones (531379) 115kV line, ckt 1, near Holcomb. a. Apply fault at the Holcomb 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
33	FLT33-1PH	<i>Single phase fault and sequence like previous</i>
34	FLT34-3PH	3 phase fault on Holcomb (531448) to Garden City (531445) 115kV line, ckt 1, near Holcomb. a. Apply fault at the Holcomb 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
35	FLT35-1PH	<i>Single phase fault and sequence like previous</i>
36	FLT36-3PH	3 phase fault on N. Ft. Dodge (539771) to Ft. Dodge (539671) 115kV line, ckt 1, near N. Ft. Dodge. a. Apply fault at the N. Ft. Dodge 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
37	FLT37-1PH	<i>Single phase fault and sequence like previous</i>
38	FLT38-3PH	3 phase fault on the Holcomb (531449) 345kV to Holcomb (531448) 115kV/(531450) 13.8kV transformer near the 115kV bus. a. Apply fault at the Holcomb 115kV bus. b. Clear fault after 5 cycles and trip the faulted transformer.
39	FLT39-3PH	3 phase fault on the N. Ft. Dodge (539771) to Spearville (539694) 115kV line, ckt 1, near N. Ft. Dodge. a. Apply fault at the N. Ft. Dodge 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
40	FLT40-1PH	<i>Single phase fault and sequence like previous</i>
41	FLT41-3PH	3 phase fault on Ft. Dodge (539671) to G08-079-Tap (560229) 115kV line, ckt 1, near Ft. Dodge. a. Apply fault at the Ft. Dodge 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
42	FLT42-1PH	<i>Single phase fault and sequence like previous</i>
43	FLT43-3PH	3 phase fault on the N. Ft. Dodge (539771) to SStarTP (539763) 115kV line, ckt 1, near N. Ft. Dodge. a. Apply fault at the N. Ft. Dodge 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
44	FLT44-1PH	<i>Single phase fault and sequence like previous</i>
45	FLT45-3PH	3 phase fault on the Kismet (539646) to Cudahy (539659) 115kV line, ckt 1, near Kismet. a. Apply fault at the Kismet 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
46	FLT46-1PH	<i>Single phase fault and sequence like previous</i>





Table 2-3 (Continued)
Case List with Contingency Description

Ref. No.	Case Name	Description
47*	FLT47-3PH	3 phase fault on the Gray County Tap (539778) to Haggard (539667) 115kV line, ckt1, near Gray County Tap. a. Apply fault at the Gray County Tap 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
48*	FLT48-1PH	<i>Single phase fault and sequence like previous</i>
49*	FLT49-3PH	3 phase fault on the Gray County Tap (539778) to West Dodge (539699) 115kV line, ckt1, near Gray County Tap. a. Apply fault at the Gray County Tap 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
50*	FLT50-1PH	<i>Single phase fault and sequence like previous</i>
51	FLT51-3PH	3 phase fault on the Woodward (515375) to Border (523775) 345kV line, ckt1, near Woodward. a. Apply fault at the Woodward 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
52	FLT52-1PH	<i>Single phase fault and sequence like previous</i>
53	FLT53-3PH	3 phase fault on the Woodward (515375) to G11-051-TAP (562075) 345kV line, ckt1, near Woodward. a. Apply fault at the Woodward 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
54	FLT54-1PH	<i>Single phase fault and sequence like previous</i>
55	FLT55-3PH	3 phase fault on the Woodward (515375) to G12-016-TAP (562286) 345kV line, ckt1, near Woodward. a. Apply fault at the Woodward 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
56	FLT56-1PH	<i>Single phase fault and sequence like previous</i>
57	FLT57-3PH	3 phase fault on the Woodward (515375) to Beaver County (580500) 345kV line, ckt1, near Woodward. a. Apply fault at the Woodward 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
58	FLT58-1PH	<i>Single phase fault and sequence like previous</i>
59	FLT59-3PH	3 phase fault on the Pioneer Tap (531392) to Sublette (531398) 115kV line, ckt1, near Pioneer Tap. a. Apply fault at the Pioneer Tap 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
60	FLT60-1PH	<i>Single phase fault and sequence like previous</i>
61	FLT61-3PH	3 phase fault on the Pioneer Tap (531392) to Plymell (531393) 115kV line, ckt1, near Pioneer Tap. a. Apply fault at the Pioneer Tap 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
62	FLT62-1PH	<i>Single phase fault and sequence like previous</i>

*Note: FLT47, FLT48, FLT49, and FLT50 were omitted from the analysis because GEN-2012-013 was withdrawn from the study





Table 2-3 (Continued)
Case List with Contingency Description

Ref. No.	Case Name	Description
63	FLT63-3PH	3 phase fault on the Plymell (531393) to Holcomb (531448) 115kV line, ckt1, near Plymell. a. Apply fault at the Plymell 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
64	FLT64-1PH	<i>Single phase fault and sequence like previous</i>
65	FLT65-3PH	3 phase fault on the Plymell (531393) to Pierceville (531408) 115kV line, ckt1, near Plymell. a. Apply fault at the Plymell 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
66	FLT66-1PH	<i>Single phase fault and sequence like previous</i>
67	FLT67-3PH	3 phase fault on the Pioneer Tap (531392) to Satanta Tap (531396) 115kV line, ckt1, near Pioneer Tap. a. Apply fault at the Pioneer Tap 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
68	FLT68-1PH	<i>Single phase fault and sequence like previous</i>
69	FLT69-3PH	3 phase fault on the Pioneer Tap (531392) to SAT-TAP (531396) 115kV line, ckt1, near Pioneer Tap. a. Apply fault at the Pioneer Tap 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
70	FLT70-1PH	<i>Single phase fault and sequence like previous</i>
71	FLT71-3PH	3 phase fault on the Fletcher (531420) to Holcomb (531448) 115kV line, ckt1, near Fletcher. a. Apply fault at the Fletcher 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
72	FLT72-1PH	<i>Single phase fault and sequence like previous</i>
73	FLT73-3PH	3 phase fault on Holcomb (531449) to Setab (531465) 345kV line, near Holcomb. a. Apply fault at the Holcomb 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
74	FLT74-1PH	<i>Single phase fault and sequence like previous</i>
75	FLT75-3PH	3 phase fault on Setab (531465) to Mingo (531451) 345kV line, near Setab. a. Apply fault at the Setab 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
76	FLT76-1PH	<i>Single phase fault and sequence like previous</i>
77	FLT77-3PH	3 phase fault on Mingo (531451) to Red Willow (640325) 345kV line, ckt1, near Mingo. a. Apply fault at the Mingo 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
78	FLT78-1PH	<i>Single phase fault and sequence like previous</i>





Table 2-3 (Continued)
Case List with Contingency Description

Ref. No.	Case Name	Description
79	FLT79-3PH	3 phase fault on Postrock (530583) to G12-011 POI (562334) 345kV line ckt1, near Postrock. a. Apply fault at the Postrock 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
80	FLT80-1PH	<i>Single phase fault and sequence like previous</i>
C4	FLTC4-3PH	Prior outage of Holcomb generating unit with 3-phase fault on Mingo – Red Willow 345 kV line near Mingo. a. Prior outage of Holcomb (531447) – offline and 0MW b. Apply three-fault at Mingo (531451) 345kV c. Run for 5.0 cycles d. Clear fault e. Trip Mingo (531451) to Red Willow (640325) 345kV line
C6	FLTC6-3PH	Summit to Smoky Hills 230 kV 3-phase fault and outage followed by Circle to Mullergren (GRTBEND) 230 kV 3-phase fault, no reclosing. a. Apply 3-phase fault at Smokey Hill (530592) 230kV bus b. Run for 6.0 cycles c. Clear fault d. Trip Smokey Hill (530592) to Summit (532873) 230kV line e. Apply 3-phase fault at Circle (532871) 230kV bus f. Run for 6.0 cycles g. Clear fault h. Trip Circle (532871) to GRTBEND (539679) 230kV line
C17	FLTC17-1PH	SLG fault on 531448 HOLCOMB3 which will trip Holcomb3 (531448) - HOLCOMB7 (531449) 345/115 kV transformer with breaker stuck which trips Holcomb3 (531448) to Jones 3 (531379) 115 kV line (delayed trip). a. Apply SLG fault at Holcomb (531448) 115kV b. Run for 8 cycles c. Disconnect bus 531450 (removes transformer and reactor) d. Run for 7 cycles e. Clear fault f. Trip line from Holcomb (531448) to Jones (531379) 115kV
C18	FLTC18-1PH	SLG Fault on the line Holcomb 3 (531448) to Fletcher3 (531393) 115 kV line with a SLG fault on Holcomb3 (531448) to Pioneer Tap (531392) (Fault at Holcomb). a. Apply SLG fault at Holcomb (531448) 115kV b. Run for 5 cycles c. Clear fault d. Trip line from Holcomb (531448) to Fletcher (531420) 115kV e. Run for 5 cycles f. Apply SLG fault at Holcomb (531448) 115kV g. Run for 5 cycles h. Clear fault i. Trip line from Holcomb (531448) to PLYMELL (531393) 115kV j. Trip line from PLYMELL (531393) to Pioneer Tap (531392) 115kV
C19	FLTC19-3PH	3-Phase fault on the line from Spearville to Great Bend with breaker stuck which trips Spearville 345/230 kV transformer (531469/539695). a. Apply 3-phase fault at Spearville (539695) 345kV b. Run for 10 cycles c. Disconnect three winding transformer (SPEARVL) at bus 539695/531469/531468 d. Run for 2 cycles e. Clear fault f. Trip line from Spearville (539695) to Great Bend (539679) 230kV
<p>Note: Switched reactors associated with the affected buses may need to be manually adjusted. SPP is determining the appropriate scheme and will revise the fault description as necessary.</p>		



SECTION 3: POWER FACTOR ANALYSIS

The objective of this task is to quantify the power factor at the point of interconnection for the wind farms during base case and system contingencies. SPP transmission planning practice requires interconnecting generation projects to maintain the power factor (pf) at the Point of Interconnection (POI) near unity for system intact conditions and within +/- 0.95 pf for post-contingency conditions. This is analyzed by having the wind farm maintain a prescribed voltage schedule at the point of interconnection of 1.0 p.u. voltage, or if the pre-project voltage is higher than 1.0 p.u., to maintain the pre-project voltage schedule.

Both winter peak and summer peak power flows provided by SPP were examined prior to the Power Factor Analysis to ensure they contained the proposed study project modeled at 100% of the nameplate rating and any previously queued projects listed in Table 2-2. There was no suspect power flow data in the study area. The proposed study project and any previously queued projects at the same point of interconnection were turned off during the power factor analysis. The wind farm(s) were then replaced by a generator modeled at the high side bus with the same real power (MW) capability as the wind farm(s) and open limits for the reactive power set points (Mvar). The generator was set to hold the POI scheduled bus voltage. Contingencies from the three-phase fault definitions provided in Table 2-3 were then applied and the reactive power required to maintain the bus voltage was recorded.

3.1 Study Project – GEN-2012-024

Approach

The study project (GEN-2012-024) was disabled and a generator was placed at the study project's point of interconnect bus. The generator was modeled with PGEN = 180 MW, QMin = -9999 Mvar, and QMax = 9999 Mvar. All buses and transformers connected from the study project's POI bus to the GEN-2012-024 generators were disabled. The pre-project voltage at the POI (Clark County 345 kV - Bus 539800) for the summer peak conditions is 0.97 p.u. and for the winter peak conditions is 0.96 p.u. Therefore, the scheduled voltage for the POI was set to 1.0 p.u. for summer peak conditions and 1.0 p.u. for winter peak conditions.

Results

The power factor was calculated for summer and winter peak conditions. Table 3-1 shows the power factor results for GEN-2012-024. Note that a positive Q (Mvar) output illustrates that the generator is absorbing reactive power from the system, implying a leading power factor; a negative Q (Mvar) illustrates that the generator is supplying reactive power to the system, implying a lagging power factor.



Table 3.1-1
Power Factor Analysis: GEN-2012-024 (P_{GEN}=180 MW)*

Case	Summer			Winter		
	Power Factor		Q** (MVAR)	Power Factor		Q** (MVAR)
Base	0.9497	Lagging	-59.38	0.9100	Lagging	-82.02
1	0.8856	Lagging	-94.39	0.8328	Lagging	-119.63
3	0.9522	Lagging	-57.73	0.9170	Lagging	-78.32
5	0.9077	Lagging	-83.22	0.8458	Lagging	-113.52
7	0.9256	Lagging	-73.59	0.8556	Lagging	-108.89
9	0.9540	Lagging	-56.57	0.9105	Lagging	-81.75
11	0.9625	Lagging	-50.70	0.9302	Lagging	-71.05
13	0.9435	Lagging	-63.24	0.8930	Lagging	-90.71
15	0.8984	Lagging	-87.99	0.8420	Lagging	-115.30
17	0.9355	Lagging	-67.99	0.8865	Lagging	-93.97
19	0.9391	Lagging	-65.89	0.8916	Lagging	-91.41
21	0.9132	Lagging	-80.33	0.8711	Lagging	-101.49
23	0.9339	Lagging	-68.90	0.8845	Lagging	-94.95
25	0.8810	Lagging	-96.66	0.8406	Lagging	-116.00
26	0.7857	Lagging	-141.73	See Note 1		
27	0.9488	Lagging	-59.92	0.9081	Lagging	-83.02
28	1.0000	Leading	1.31	0.9980	Lagging	-11.27
29	0.9477	Lagging	-60.62	0.9087	Lagging	-82.70
30	0.9487	Lagging	-60.01	0.9090	Lagging	-82.56
31	0.9503	Lagging	-58.97	0.9116	Lagging	-81.16
32	0.9495	Lagging	-59.49	0.9098	Lagging	-82.13
34	0.9497	Lagging	-59.38	0.9097	Lagging	-82.17
36	0.9496	Lagging	-59.41	0.9099	Lagging	-82.05
38	0.9519	Lagging	-57.92	0.9132	Lagging	-80.31
39	0.9492	Lagging	-59.68	0.9093	Lagging	-82.37
41	0.9504	Lagging	-58.90	0.9116	Lagging	-81.17
43	0.9490	Lagging	-59.80	0.9094	Lagging	-82.33
45	0.9456	Lagging	-61.93	0.9028	Lagging	-85.77
47	0.9460	Lagging	-61.66	0.9100	Lagging	-82.02
49	0.9517	Lagging	-58.09	0.9100	Lagging	-82.02
51	0.9497	Lagging	-59.38	0.9100	Lagging	-82.02
53	0.8712	Lagging	-101.42	0.7956	Lagging	-137.05
55	0.9485	Lagging	-60.11	0.9014	Lagging	-86.48
57	0.9327	Lagging	-69.63	0.8873	Lagging	-93.56
59	0.9497	Lagging	-59.38	0.9100	Lagging	-82.02
61	0.9495	Lagging	-59.50	0.9102	Lagging	-81.92
63	0.9500	Lagging	-59.13	0.9102	Lagging	-81.89
65	0.9468	Lagging	-61.17	0.9100	Lagging	-82.02
67	0.9495	Lagging	-59.48	0.9100	Lagging	-82.02
69	0.9495	Lagging	-59.48	0.9100	Lagging	-82.02
71	0.9498	Lagging	-59.27	0.9101	Lagging	-81.94
73	0.9295	Lagging	-71.41	0.8926	Lagging	-90.92
75	0.9145	Lagging	-79.64	0.8778	Lagging	-98.22
77	0.9061	Lagging	-84.06	0.8603	Lagging	-106.65
79	0.8446	Lagging	-114.11	0.7910	Lagging	-139.24
C4	0.9462	Lagging	-61.53	0.9065	Lagging	-83.85
C6	0.9121	Lagging	-80.89	0.8581	Lagging	-107.71
C17	0.9517	Lagging	-58.09	0.9131	Lagging	-80.36
C18	0.9500	Lagging	-59.16	0.9107	Lagging	-81.63
C19	0.9210	Lagging	-76.13	0.8739	Lagging	-100.14

Note 1: Winter Peak Case #26 diverges with the loss of both Thistle to Clark County 345 kV lines.

*The scheduled voltage for the POI (Clark County 345 kV) was 0.97 p.u. for summer peak and 0.96 p.u. for winter peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.



Summary

The Power Factor Analysis shows that GEN-2012-024 has a power factor range of 0.7857 lagging (supplying) to 1.0000 leading (absorbing).

3.2 Study Project – GEN-2012-042

Approach

The study project (GEN-2012-042) was disabled and a generator was placed at the study project's point of interconnect bus. The generator was modeled with PGEN = 176 MW for the summer peak case and PGEN = 220 MW for the winter peak case, QMin = -9999 Mvar, and QMax = 9999 Mvar. All buses and transformers connected from the study project's POI bus to the corresponding generators were disabled. The pre-project voltage at the POI (Spearville 345 kV – Bus 562116) for the summer peak conditions is 0.97 p.u. and for the winter peak conditions is 0.96 p.u. Therefore, the scheduled voltage for the POI was set to 1.0 p.u. for summer peak conditions and 1.0 p.u. for winter peak conditions.

Results

The power factor was calculated for summer and winter peak conditions. Table 3-2 shows the power factor results for GEN-2012-042. Note that a positive Q (Mvar) output illustrates that the generator is absorbing reactive power from the system, implying a leading power factor; a negative Q (Mvar) illustrates that the generator is supplying reactive power to the system, implying a lagging power factor.



Table 3-2
Power Factor Analysis: GEN-2012-042 (P_{GEN}=176/220 MW)*

Case	Summer Peak			Winter Peak		
	Power Factor		Q** (MVAR)	Power Factor		Q** (MVAR)
Base	0.9680	Lagging	-45.62	0.9637	Lagging	-60.96
1	0.9323	Lagging	-68.25	0.9314	Lagging	-85.96
3	0.9809	Lagging	-34.86	0.9767	Lagging	-48.38
5	0.9454	Lagging	-60.65	0.9370	Lagging	-82.01
7	0.9541	Lagging	-55.22	0.9408	Lagging	-79.29
9	0.9701	Lagging	-44.07	0.9633	Lagging	-61.27
11	0.9662	Lagging	-46.98	0.9641	Lagging	-60.57
13	0.9647	Lagging	-48.06	0.9561	Lagging	-67.43
15	0.9344	Lagging	-67.12	0.9319	Lagging	-85.60
17	0.9613	Lagging	-50.43	0.9547	Lagging	-68.56
19	0.9437	Lagging	-61.67	0.9397	Lagging	-80.09
21	0.9288	Lagging	-70.24	0.9299	Lagging	-87.01
23	0.9608	Lagging	-50.75	0.9543	Lagging	-68.88
25	0.8298	Lagging	-118.38	0.7868	Lagging	-138.07
26	0.7492	Lagging	-155.58	0.7049	Lagging	-177.12
27	0.9697	Lagging	-44.37	0.9427	Lagging	-62.27
28	0.9509	Lagging	-57.31	0.9300	Lagging	-69.58
29	0.9676	Lagging	-45.92	0.9641	Lagging	-60.55
30	0.9672	Lagging	-46.19	0.9631	Lagging	-61.45
31	0.9707	Lagging	-43.59	0.9670	Lagging	-57.95
32	0.9679	Lagging	-45.72	0.9636	Lagging	-61.06
34	0.9680	Lagging	-45.61	0.9635	Lagging	-61.11
36	0.9680	Lagging	-45.64	0.9637	Lagging	-60.98
38	0.9704	Lagging	-43.78	0.9661	Lagging	-58.81
39	0.9681	Lagging	-45.54	0.9639	Lagging	-60.79
41	0.9685	Lagging	-45.29	0.9644	Lagging	-60.29
43	0.9673	Lagging	-46.15	0.9632	Lagging	-61.38
45	0.9648	Lagging	-47.96	0.9596	Lagging	-64.54
47	0.9649	Lagging	-47.91	0.9637	Lagging	-60.96
49	0.9697	Lagging	-44.35	0.9637	Lagging	-60.96
51	0.9680	Lagging	-45.62	0.9637	Lagging	-60.96
53	0.9048	Lagging	-82.81	0.9053	Lagging	-103.22
55	0.9655	Lagging	-47.50	0.9577	Lagging	-66.07
57	0.9584	Lagging	-52.40	0.9546	Lagging	-68.65
59	0.9680	Lagging	-45.62	0.9637	Lagging	-60.96
61	0.9679	Lagging	-45.73	0.9638	Lagging	-60.85
63	0.9684	Lagging	-45.35	0.9639	Lagging	-60.81
65	0.9655	Lagging	-47.45	0.9637	Lagging	-60.96
67	0.9679	Lagging	-45.71	0.9637	Lagging	-60.96
69	0.9679	Lagging	-45.71	0.9637	Lagging	-60.96
71	0.9682	Lagging	-45.50	0.9638	Lagging	-60.86
73	0.9512	Lagging	-57.07	0.9537	Lagging	-69.40
75	0.9382	Lagging	-64.92	0.9448	Lagging	-76.32
77	0.9315	Lagging	-68.74	0.9354	Lagging	-83.18
79	0.9001	Lagging	-85.20	0.9054	Lagging	-103.14
C4	0.9620	Lagging	-49.96	0.9703	Lagging	-43.86
C6	0.9439	Lagging	-61.58	0.9135	Lagging	-78.37
C17	0.9702	Lagging	-43.94	0.9482	Lagging	-58.99
C18	0.9678	Lagging	-45.79	0.9455	Lagging	-60.59
C19	0.9494	Lagging	-58.22	0.9207	Lagging	-74.61

*The scheduled voltage for the POI (Spearville 345 kV) was 0.97 p.u. for summer peak and 0.96 p.u. for winter peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.



Summary

The Power Factor Analysis shows that GEN-2012-042 has a power factor range of 0.7049 lagging (supplying) to 0.9809 lagging (supplying).

3.3 Overall Summary

The Power Factor Analysis shows that GEN-2012-024 has a power factor range 0.7857 lagging (supplying) to 1.0000 leading (absorbing) and GEN-2012-042 has a power factor range of 0.7049 lagging (supplying) to 0.9809 lagging (supplying).

SECTION 4: STABILITY ANALYSIS

The objective of the stability analysis was to determine the impacts of the new wind farms on the stability and voltage recovery on the SPP transmission system. If problems with stability or voltage recovery were identified the need for reactive compensation or system upgrades were investigated.

Approach

Both winter peak and summer peak power flows provided by SPP were examined prior to the Stability Analysis to ensure they contained the proposed study projects (GEN-2012-024 and GEN-2012-042) modeled at 100% of the nameplate rating and any previously queued projects listed in Table 2-2. There was no suspect power flow data in the study area. The dynamic datasets were also verified and stable initial system conditions (i.e., “flat lines”) were achieved. Three-phase and single line-to-ground faults listed in Table 2-3 were examined. Single-phase fault impedances were calculated to result in a voltage of approximately 60% of the pre-fault voltage. Refer to Table 4-1 for a list of the calculated single-phase fault impedances used for this analysis.



Table 4-1
Calculated Single-Phase Fault Impedances

Ref. No.	Casename	Single-Phase Fault Impedance (MVA)	
		Summer Peak	Winter Peak
2	FLT02-1PH	4437.5	4031.3
4	FLT04-1PH	4437.5	4031.3
6	FLT06-1PH	3015.6	2812.5
8	FLT08-1PH	7687.5	6875.0
10	FLT10-1PH	4843.8	4843.8
12	FLT12-1PH	7687.5	6875.0
14	FLT14-1PH	5250.0	5250.0
16	FLT16-1PH	5250.0	5250.0
18	FLT18-1PH	5656.3	4843.8
20	FLT20-1PH	5656.3	4843.8
22	FLT22-1PH	5656.3	4843.8
24	FLT24-1PH	5656.3	4843.8
33	FLT33-1PH	3828.1	3218.8
35	FLT35-1PH	3828.1	3218.8
37	FLT37-1PH	2000.0	1875.0
40	FLT40-1PH	2000.0	1875.0
42	FLT42-1PH	1875.0	1750.0
44	FLT44-1PH	2000.0	1875.0
46	FLT46-1PH	656.3	562.5
48	FLT48-1PH	781.3	562.5
50	FLT50-1PH	781.3	562.5
52	FLT52-1PH	8093.8	7687.5
54	FLT54-1PH	8093.8	7687.5
56	FLT56-1PH	8093.8	7687.5
58	FLT58-1PH	8093.8	7687.5
60	FLT60-1PH	937.5	875.0
62	FLT62-1PH	937.5	875.0
64	FLT64-1PH	1250.0	1062.5
66	FLT66-1PH	1250.0	1062.5
68	FLT68-1PH	937.5	875.0
70	FLT70-1PH	937.5	875.0
72	FLT72-1PH	1000.0	1000.0
74	FLT74-1PH	4843.8	4843.8
76	FLT76-1PH	3218.8	3218.8
78	FLT78-1PH	2406.3	2406.3
80	FLT80-1PH	3015.6	2812.5
C17	FLTC17-1PH	3828.1	4843.8
C18	FLTC18-1PH	3828.1	4843.8



Bus voltages and previously queued generation in the study area were monitored in addition to the bus voltages in the following areas:

- 520 AEPW
- 524 OKGE
- 525 WFEC
- 526 SPS
- 531 MIDW
- 534 SUNC
- 536 WERE
- 640 NPPD
- 645 OPPD
- 650 LES
- 652 WAPA

The results of the analysis determined if reactive compensation or system upgrades were required to obtain acceptable system performance. If additional reactive compensation was required, the size, type, and location were determined. The proposed reactive reinforcements would ensure the wind farm meets FERC Order 661A low voltage requirements and return the wind farm to its pre-disturbance operating voltage. If the results indicated the need for fast responding reactive support, dynamic support such as an SVC or STATCOM was investigated. If tripping of the prior queued projects was observed during the stability analysis (for under/over voltage or under/over frequency) the simulations were re-ran with the prior queued project's voltage and frequency tripping disabled.

Results

Refer to Table 4-2 for a summary of the Stability Analysis results for the cases listed in Table 2-3.



Table 4-2
Stability Analysis Summary of Results

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
1	FLT01-3PH	Yes	Yes	Yes	Yes
2	FLT02-1PH	Yes	Yes	Yes	Yes
3	FLT03-3PH	Yes	Yes	Yes	Yes
4	FLT04-1PH	Yes	Yes	Yes	Yes
5	FLT05-3PH	Yes	Yes	Yes	Yes
6	FLT06-1PH	Yes	Yes	Yes	Yes
7	FLT07-3PH	Yes	Yes	Yes	Yes
8	FLT08-1PH	Yes	Yes	Yes	Yes
9	FLT09-3PH	Yes	Yes	Yes	Yes
10	FLT10-1PH	Yes	Yes	Yes	Yes
11	FLT11-3PH	Yes	Yes	Yes	Yes
12	FLT12-1PH	Yes	Yes	Yes	Yes
13	FLT13-3PH	Yes	Yes	Yes	Yes
14	FLT14-1PH	Yes	Yes	Yes	Yes
15	FLT15-3PH	Yes	Yes	Yes	Yes
16	FLT16-1PH	Yes	Yes	Yes	Yes
17	FLT17-3PH	Yes	Yes	Yes	Yes
18	FLT18-1PH	Yes	Yes	Yes	Yes
19	FLT19-3PH	Yes	Yes	Yes	Yes
20	FLT20-1PH	Yes	Yes	Yes	Yes
21	FLT21-3PH	Yes	Yes	Yes	Yes
22	FLT22-1PH	Yes	Yes	Yes	Yes
23	FLT23-3PH	Yes	Yes	Yes	Yes
24	FLT24-1PH	Yes	Yes	Yes	Yes
25	FLT25-3PH	No ¹	No ¹	No ¹	No ¹
26	FLT26-3PH	No ¹	No ¹	No ¹	No ¹

¹Note: Double circuit fault at Thistle 345 kV, no mitigation required. Bus voltages below 0.9 p.u.





Table 4-2 (Continued)
Stability Analysis Summary of Results

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
27	FLT27-3PH	Yes	Yes	Yes	Yes
28	FLT28-3PH	Yes	Yes	Yes	Yes
29	FLT29-3PH	Yes	Yes	Yes	Yes
30	FLT30-3PH	Yes	Yes	Yes	Yes
31	FLT31-3PH	Yes	Yes	Yes	Yes
32	FLT32-3PH	Yes	Yes	Yes	Yes
33	FLT33-1PH	Yes	Yes	Yes	Yes
34	FLT34-3PH	Yes	Yes	Yes	Yes
35	FLT35-1PH	Yes	Yes	Yes	Yes
36	FLT36-3PH	Yes	Yes	Yes	Yes
37	FLT37-1PH	Yes	Yes	Yes	Yes
38	FLT38-3PH	Yes	Yes	Yes	Yes
39	FLT39-3PH	Yes	Yes	Yes	Yes
40	FLT40-1PH	Yes	Yes	Yes	Yes
41	FLT41-3PH	Yes	Yes	Yes	Yes
42	FLT42-1PH	Yes	Yes	Yes	Yes
43	FLT43-3PH	Yes	Yes	Yes	Yes
44	FLT44-1PH	Yes	Yes	Yes	Yes
45	FLT45-3PH	Yes	Yes	Yes	Yes
46	FLT46-1PH	Yes	Yes	Yes	Yes
47	FLT47-3PH	See Note 2		See Note 2	
48	FLT48-1PH	See Note 2		See Note 2	
49	FLT49-3PH	See Note 2		See Note 2	
50	FLT50-1PH	See Note 2		See Note 2	
51	FLT51-3PH	Yes	Yes	Yes	Yes
52	FLT52-1PH	Yes	Yes	Yes	Yes
53	FLT53-3PH	Yes ³	Yes ³	Yes ³	Yes ³

²Note: FLT47-3PH, FLT48-1PH, FLT49-3PH, and FLT50-1PH were removed from the scope because project GEN-2012-013 was withdrawn.

³Note: To obtain acceptable voltages, a line was added from Woodward to Tatonga 345 kV





Table 4-2 (Continued)
Stability Analysis Summary of Results

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
54	FLT54-1PH	Yes ³	Yes ³	Yes ³	Yes ³
55	FLT55-3PH	Yes	Yes	Yes	Yes
56	FLT56-1PH	Yes	Yes	Yes	Yes
57	FLT57-3PH	Yes	Yes	Yes	Yes
58	FLT58-1PH	Yes	Yes	Yes	Yes
59	FLT59-3PH	Yes	Yes	Yes	Yes
60	FLT60-1PH	Yes	Yes	Yes	Yes
61	FLT61-3PH	Yes	Yes	Yes	Yes
62	FLT62-1PH	Yes	Yes	Yes	Yes
63	FLT63-3PH	Yes	Yes	Yes	Yes
64	FLT64-1PH	Yes	Yes	Yes	Yes
65	FLT65-3PH	Yes	Yes	Yes	Yes
66	FLT66-1PH	Yes	Yes	Yes	Yes
67	FLT67-3PH	Yes	Yes	Yes	Yes
68	FLT68-1PH	Yes	Yes	Yes	Yes
69	FLT69-3PH	Yes	Yes	Yes	Yes
70	FLT70-1PH	Yes	Yes	Yes	Yes
71	FLT71-3PH	Yes	Yes	Yes	Yes
72	FLT72-1PH	Yes	Yes	Yes	Yes
72	FLT72-1PH	Yes	Yes	Yes	Yes
73	FLT73-3PH	Yes	Yes	Yes	Yes
74	FLT74-1PH	Yes	Yes	Yes	Yes
75	FLT75-3PH	Yes	Yes	Yes	Yes
76	FLT76-1PH	Yes	Yes	Yes	Yes
77	FLT77-3PH	Yes	Yes	Yes	Yes
78	FLT78-1PH	Yes	Yes	Yes	Yes
79	FLT79-3PH	Yes ⁴	Yes ⁴	Yes ⁴	Yes ⁴

³Note: To obtain acceptable voltages, a line was added from Woodward to Tatonga 345 kV

⁴Note: To obtain acceptable voltages, a line was added from Woodward to Tatonga 345 kV and an 80 Mvar capacitor bank was added to Great Bend 230 KV



**Table 4-2 (Continued)
Stability Analysis Summary of Results**

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
80	FLT80-1PH	Yes	Yes	Yes	Yes
C4	FLTC4-3PH	Yes	Yes	Yes	Yes
C6	FLTC6-3PH	Yes	Yes	Yes	Yes
C17	FLTC17-1PH	Yes	Yes	Yes	Yes
C18	FLTC18-1PH	Yes	Yes	Yes	Yes
C19	FLTC19-3PH	Yes	Yes	Yes	Yes

The initial simulations were run for summer and winter peak conditions. There were several contingencies that showed unstable results (i.e., high frequency oscillations) in the summer and winter peak cases when the fault was applied to the Spearville 345 kV bus. These contingencies included:

- Contingency #3: 3 phase fault on the G11-017 to Spearville 345 kV line
- Contingency #7: 3 phase fault on the Spearville to Buckner kV line
- Contingency #11: 3 phase fault on the Spearville to Clark County 345 kV line, ckt 1
- Contingency #28: 3 phase fault on the Spearville to Clark County 345 kV line, ckt 1 & 2
- Contingency #C19: 3 phase fault on the Spearville to Great Bend with a Stuck Breaker which trips the Spearville 345/230 kV transformer

For all of these contingencies, there were no generators tripping offline caused by voltage or frequency relays. However, GEN-2012-042 showed instability in speed for the cases involving a fault near the Spearville 345 kV bus. In order to make GEN-2012-042 (539803) generator stable, the exciter model (ESAC8B) was updated. The following parameters were updated:

- Original
 - $V_{RMax} = 9.1$; $S_E(E1) = 1.15$; $S_E(E2) = 0.82$
- New
 - $V_{RMax} = 6.0$; $S_E(E1) = 0.82$; $S_E(E2) = 1.15$

Making these updates to the exciter model (ESAC8B) reduced the high frequency oscillations. Refer to Figure 4-1 for a comparison of the exciter model with and without the updated parameters.

Summer Peak Summary

For the Summer Peak case, the Stability Analysis determined that there was no wind turbine tripping that occurs from interconnecting GEN-2012-024 and GEN-2012-042 at 100% output. Low voltage recovery was observed for several contingencies during summer peak conditions. The following contingencies observed bus voltages below 0.9 p.u. for the summer peak cases.

- Contingency #25: 3 phase fault on the Thistle to Wichita 345 kV line, ckt 1 and 2
- Contingency #26: 3 phase fault on the Thistle to Clark County 345 kV line, ckt 1 and 2
- Contingency #79: 3 phase fault on the Post Rock to G12-011 POI 345 kV line

For Contingency #25, 3 phase double circuit fault on the Thistle to Wichita 345 kV line, and Contingency #26, 3 phase double circuit fault on the Thistle to Clark County 345 kV line, there are low voltages observed that do not recover to 0.9 p.u. post-fault. After discussion with SPP, no mitigation was required for these double circuit faults.

Contingency #79 is a 3 phase fault on the Post Rock to G12-011 POI 345 kV line. After discussion with SPP, it was determined that adding a transmission line from Woodward 345 kV to Tatonga 345 kV would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of these mitigations, system stability and acceptable voltages were achieved.

Winter Peak Summary

For the Winter Peak case, the Stability Analysis determined that there was no wind turbine tripping that occurs from interconnecting GEN-2012-024 and GEN-2012-042 at 100% output. Low voltage recovery was observed for several contingencies during winter peak conditions. The following contingencies observed bus voltages below 0.9 p.u. for the winter peak.

- Contingency #25: 3 phase fault on the Thistle to Wichita 345 kV line, ckt 1 and 2
- Contingency #26: 3 phase fault on the Thistle to Clark County 345 kV line, ckt 1 and 2
- Contingency #53: 3 phase fault on the Woodward to G11-051-Tap 345 kV line
- Contingency #54: 1 phase fault on the Woodward to G11-051-Tap 345 kV line
- Contingency #79: 3 phase fault on the Post Rock to G12-011 POI 345 kV line

For Contingency #25, 3 phase double circuit fault on the Thistle to Wichita 345 kV line, and Contingency #26, 3 phase double circuit fault on the Thistle to Clark County 345 kV line, there are low voltages observed that do not recover to 0.9 p.u. post-fault. After discussion with SPP, no mitigation was required for these double circuit faults. Refer to Figure 4.2 for a response plot of select bus voltages during Contingency #25 (FLT25-3PH) for winter peak conditions without mitigation.



Contingency #53 and #54 are a 3 phase and 1 phase fault, respectively, on the Woodward to G11-051-Tap 345 kV line. After discussion with SPP, it was determined that adding a transmission line from Woodward 345 kV to Tatonga 345 kV would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of this mitigation, system stability and acceptable voltages were achieved. Refer to Figure 4.3 and Figure 4.4 for a response plot of select bus voltages during Contingency #53 (FLT53-3PH) for winter peak conditions without mitigation and with mitigation, respectively.

Contingency #79 is a 3 phase fault on the Post Rock to G12-011 POI 345 kV line. After discussion with SPP, it was determined that adding a transmission line from Woodward 345 kV to Tatonga 345 kV and adding an 80 Mvar capacitor bank at the Great Bend 230 kV bus would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of these mitigations, system stability and acceptable voltages were achieved. Refer to Figure 4.5 and 4.6 for a response plot of select bus voltages during Contingency #79 (FLT79-3PH) for winter peak conditions without mitigation and with mitigation, respectively.

Refer to Appendix B and Appendix C for a complete list of plots for all contingencies for summer peak and winter peak conditions, respectively.



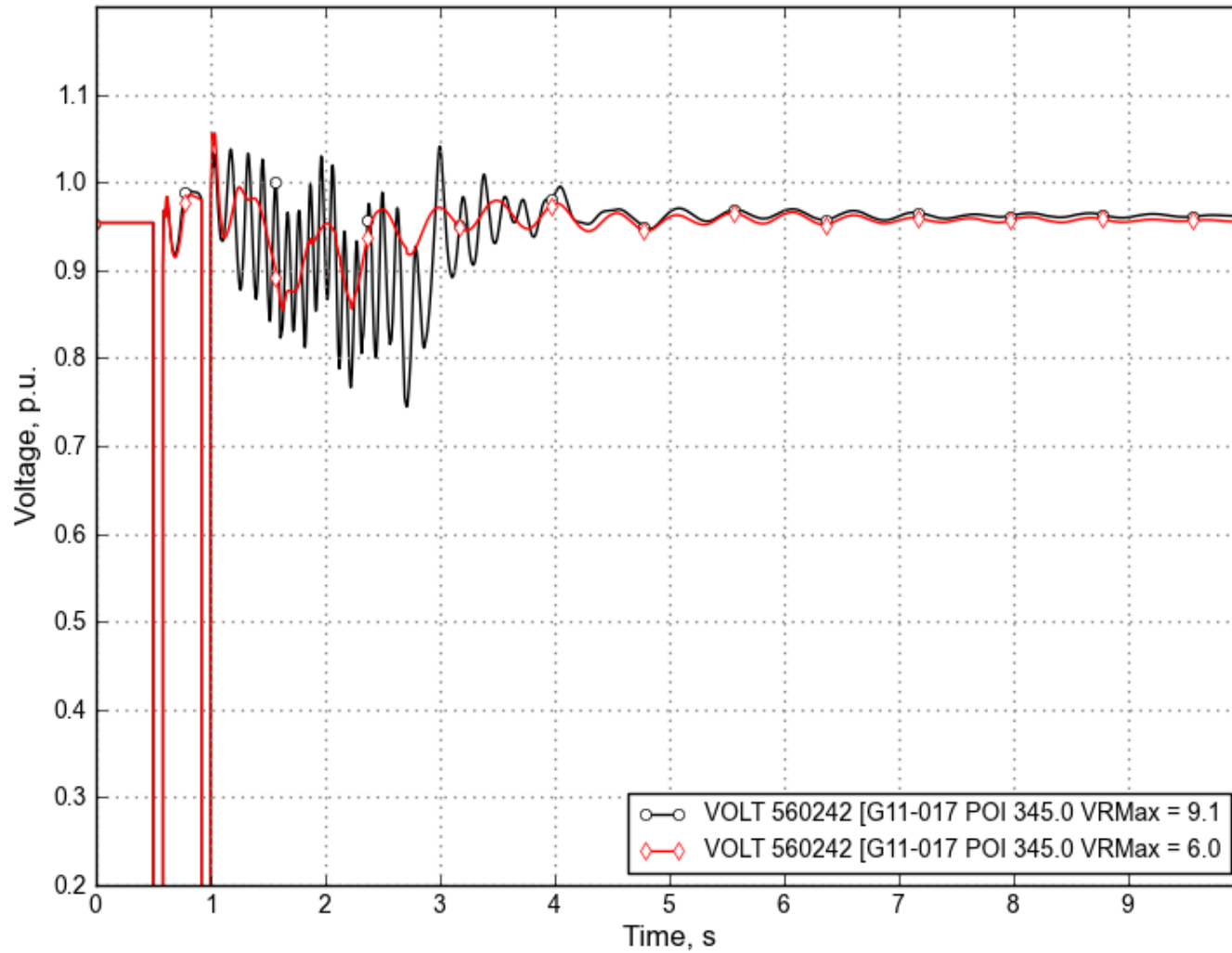


Figure 4-1. Comparison plot of the exciter model with the original and updated parameters.

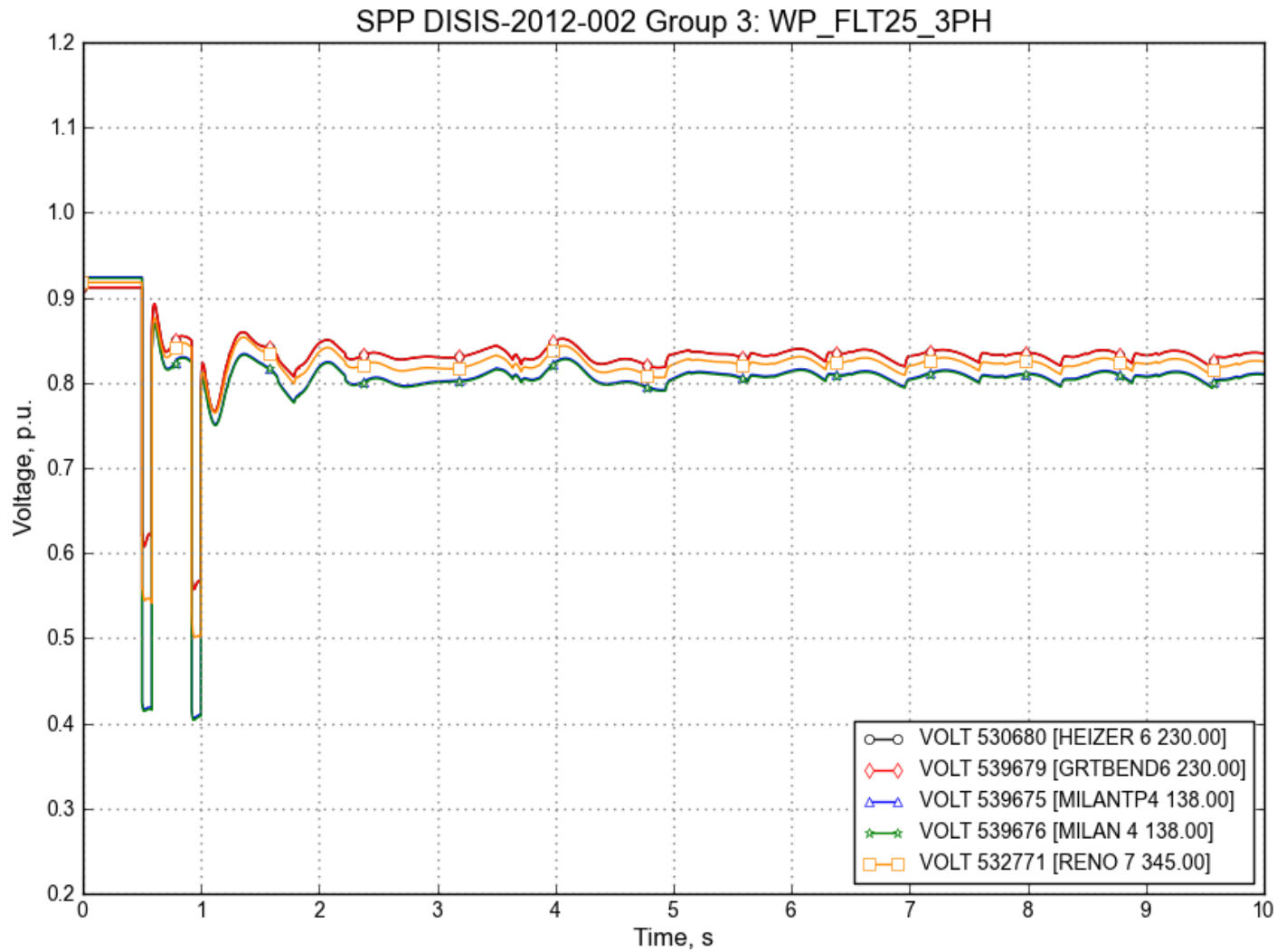


Figure 4-2. Response of select bus voltages during Contingency #25 (FLT25-3PH) for winter peak conditions without mitigation.

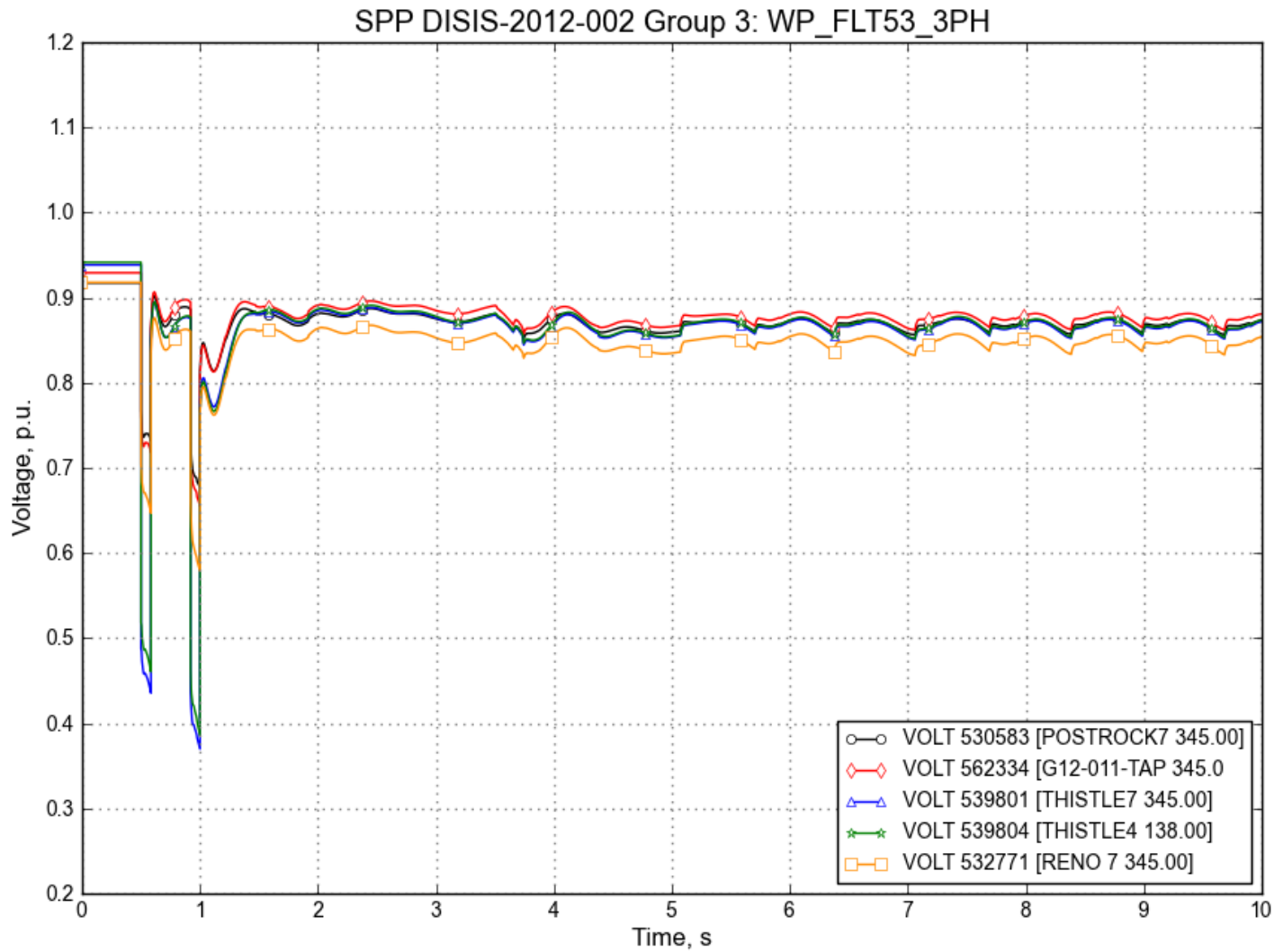


Figure 4-3. Response of select bus voltages during Contingency #53 (FLT53-3PH) for winter peak conditions without mitigation.

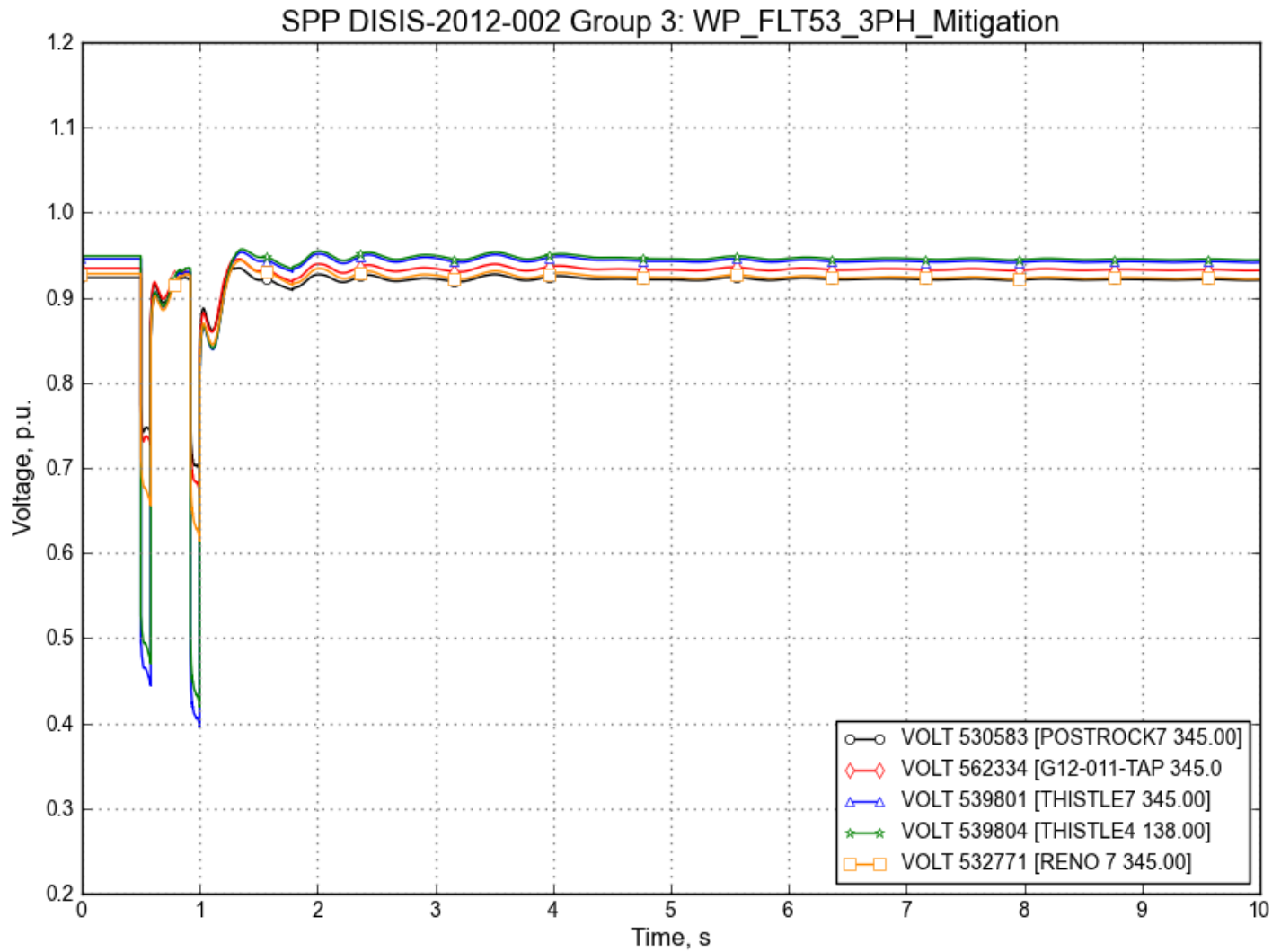


Figure 4-4. Response of select bus voltages during Contingency #53 (FLT53-3PH) for winter peak conditions with mitigation.

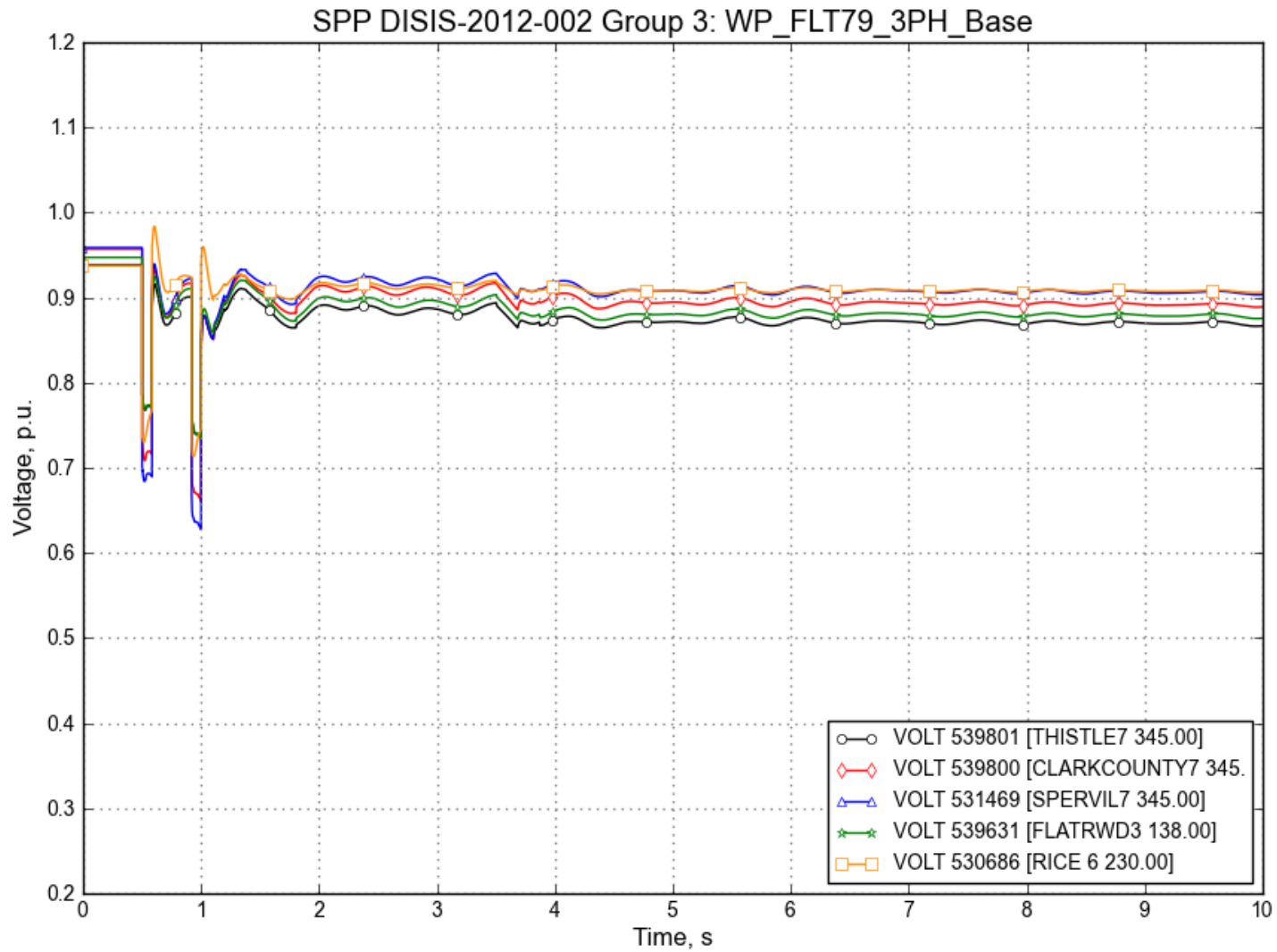


Figure 4-5. Response of select bus voltages during Contingency #79 (FLT79-3PH) for winter peak conditions without mitigation.

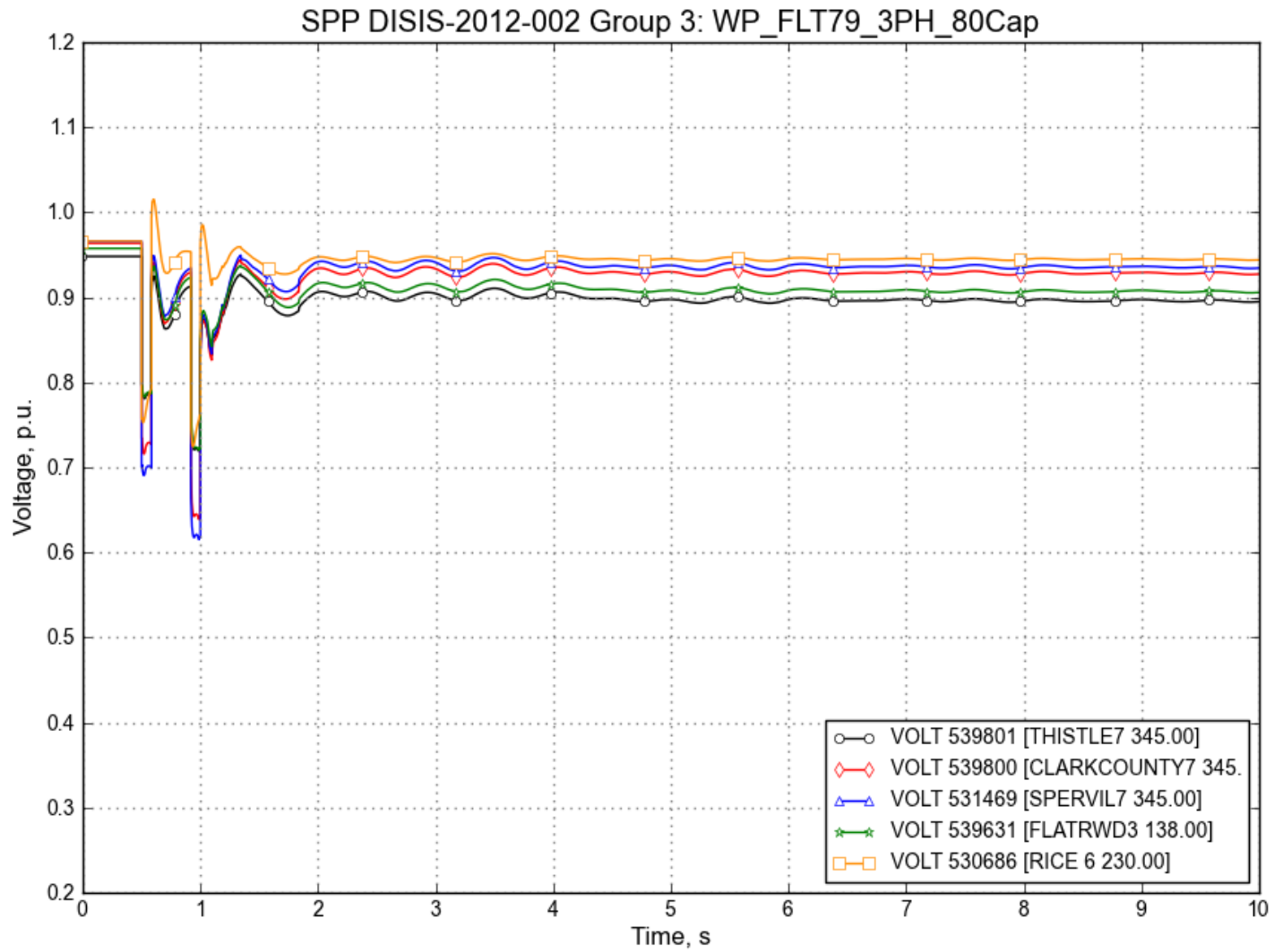


Figure 4-6. Response of select bus voltages during Contingency #79 (FLT79-3PH) for winter peak conditions with mitigation.

SECTION 5: CONCLUSIONS

Power Factor Analysis

The Power Factor Analysis shows that GEN-2012-024 has a power factor range 0.7857 lagging (supplying) to 1.0000 leading (absorbing) and GEN-2012-042 has a power factor range of 0.7049 lagging (supplying) to 0.9809 lagging (supplying).

Stability Analysis

For the Summer Peak case, the Stability Analysis determined that there was no wind turbine tripping that occurs from interconnecting GEN-2012-024 and GEN-2012-042 at 100% output. Low voltage recovery was observed for several contingencies during summer peak conditions. The following contingencies observed bus voltages below 0.9 p.u. for the summer peak.

- Contingency #25: 3 phase fault on the Thistle to Wichita 345 kV line, ckt 1 and 2
- Contingency #26: 3 phase fault on the Thistle to Clark County 345 kV line, ckt 1 and 2
- Contingency #79: 3 phase fault on the Post Rock to G12-011 POI 345 kV line

For Contingency #25, 3 phase double circuit fault on the Thistle to Wichita 345 kV line, and Contingency #26, 3 phase double circuit fault on the Thistle to Clark County 345 kV line, there are low voltages observed that do not recover to 0.9 p.u. post-fault. After discussion with SPP, no mitigation was required for these double circuit faults.

Contingency #79 is a 3 phase fault on the Post Rock to G12-011 POI 345 kV line. After discussion with SPP, it was determined that adding a transmission line from Woodward 345 kV to Tatonga 345 kV would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of these mitigations, system stability and acceptable voltages were achieved.

For the Winter Peak case, the Stability Analysis determined that there was no wind turbine tripping that occurs from interconnecting GEN-2012-024 and GEN-2012-042 at 100% output. Low voltage recovery was observed for several contingencies during winter peak conditions. The following contingencies observed bus voltages below 0.9 p.u. for the winter peak.

- Contingency #25: 3 phase fault on the Thistle to Wichita 345 kV line, ckt 1 and 2
- Contingency #26: 3 phase fault on the Thistle to Clark County 345 kV line, ckt 1 and 2
- Contingency #53: 3 phase fault on the Woodward to G11-051-Tap 345 kV line
- Contingency #54: 1 phase fault on the Woodward to G11-051-Tap 345 kV line
- Contingency #79: 3 phase fault on the Post Rock to G12-011 POI 345 kV line



For Contingency #25, 3 phase double circuit fault on the Thistle to Wichita 345 kV line, and Contingency #26, 3 phase double circuit fault on the Thistle to Clark County 345 kV line, there are low voltages observed that do not recover to 0.9 p.u. post-fault. After discussion with SPP, no mitigation was required for these double circuit faults.

Contingency #53 and #54 are a 3 phase and 1 phase fault, respectively, on the Woodward to G11-051-Tap 345 kV line. After discussion with SPP, it was determined that adding a transmission line from Woodward 345 kV to Tatonga 345 kV would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of this mitigation, system stability and acceptable voltages were achieved.

Contingency #79 is a 3 phase fault on the Post Rock to G12-011 POI 345 kV line. After discussion with SPP, it was determined that adding a transmission line from Woodward 345 kV to Tatonga 345 kV and adding an 80 Mvar capacitor bank at the Great Bend 230 kV bus would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of these mitigations, system stability and acceptable voltages were achieved.



APPENDIX A: STEAD STATE AND DYNAMIC MODEL DATA

Base Case Power Flows

Two base case power flows were provided to MEPPi by SPP:

- MDWG12-14SP_DIS12-02_G03.sav
- MDWG12-14W1_DIS12-02_G03.sav

Two dynamic files were provided to MEPPi by SPP:

- MDWG12-14SP_DIS12-02_G03.sav
- MDWG12-14W1_DIS12-02_G03.sav

GEN-2012-024

- Wind farm size: 180 MW
- Interconnection:
 - Voltage: 345 kV
 - POI: Clark County 345 kV bus (539800)
 - Transformer: 345/34.5 kV step-up transformer
 - MVA: 138.75 MVA
 - Voltage: 345/34.5 kV
 - Z: 11.99% on 138.5 MVA
- Collector System Equivalent Model:
 - Transmission Line:
 - $R = 0.001104$ p.u. on 100 MVA and line kV base (positive sequence)
 - $X = 0.003556$ p.u. on 100 MVA and line kV base (positive sequence)
 - $B = 0.030800$ p.u. on 100 MVA and line kV base (positive sequence)



- Wind Farm Parameters:
 - Machine Terminal Voltage: 0.69 kV
 - Machine Rated Power: 180 MW
 - Turbines:
 - Vestas V112 - 3.0 MW
 - Generator Step-Up Transformer
 - MVA: 338 Winding MVA
 - High Voltage: 34.5 kV
 - Low Voltage: 0.69 kV
 - Z: 6.0% on 338 Winding MVA

The dynamic data for the Vestas V112 Turbine Generator is shown below:





```

/
/ -----
/ ***** Gen-2012-024 Bloom Wind *****
/
/ Vestas V112 GridStreamer 3.0MW (VestasWT_7_6_0_PSSE32.lib)
/
583373 'USRMDL' '1' 'VWCOR6' 1 1 2 45 23 104 1 0
3000.0000 650.0000 3768.2216 700.0000 1.0000 1000.0000 0.0422
6.0050 8.3264 6.0050 8.3264 1.0000 1.0000 1.0000
1.0000 0.0007 0.7878 0.0437 1.2015 0.0000 607.3746
665.0598 0.0300 0.0000 0.0300 0.3000 0.0000 0.0000
1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
1.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 0.0000 /
0 'USRMDL' 0 'VWVAR6' 8 0 2 0 0 30 583373 '1' /
0 'USRMDL' 0 'VWLVR6' 8 0 3 65 10 35 583373 '1' 1
0.8500 0.0010 0.6000 100.0000 200.0000 100.0000 200.0000
0.5000 1.0000 1.0000 1000.0000 1.4500 1.4500 650.0000
3768.2216 9999.0000 0.0500 0.2500 0.0200 3.0000 4.0000
9999.0000 0.0422 1.0000 0.9000 0.0000 1.0000 0.0100
0.0000 0.0000 2.0000 0.0000 1.0000 0.0000 1.0500
-1.050 1.1000 0.8500 0.1500 0.0500 0.1000 0.5000
0.8000 1.4500 0.3900 0.4000 1.4500 0.8000 0.9000
1.1000 1.2000 0.1000 2.5000 0.6000 900.00 0.0000
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 /
0 'USRMDL' 0 'VWPWR6' 8 0 3 30 7 10 583373 '1' 0
1.0000 0.5723 -0.3857 1.0000 1.0000 0.8680 0.9330
0.0000 0.0000 0.1000 0.1000 20.0000 20.0000 0.0160
0.0160 1.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 /
0 'USRMDL' 0 'VWMEC6' 8 0 2 10 8 0 583373 '1'
3000.0000 607.3746 4341.5340 427.0000 68.5000 6358.0000 38.3000
0.0000 0.0000 0.0000 /
0 'USRMDL' 0 'VWMEA6' 8 0 2 10 8 5 583373 '1'
0.0160 0.0160 0.3333 1.0000 0.0000 0.0000 0.0000
0.0000 0.0000 0.0000 /
0 'USRMDL' 0 'VWVPR6' 0 2 7 30 0 18 583373 '1' 1 1 0 0 0
0.8500 11.0000 0.8500 11.0000 0.9000 60.0000 1.1000
60.0000 1.1500 2.0000 1.2000 0.0800 1.2500 0.0050
1.2500 0.0050 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 0.45000 0.8000 2.6000 0.9000 10.000
0.90000 10.000 /
0 'USRMDL' 0 'VWFPR6' 0 2 3 12 0 7 583373 '1' 0
56.4000 0.2000 56.4000 0.2000 56.4000 0.2000 63.6000
0.2000 63.6000 0.2000 63.6000 0.2000 /
/

```





GEN-2012-042

- Wind farm size: 220 MW

- Interconnection:
 - Voltage: 345 kV
 - POI: Spearville 345 kV bus (531469)
 - Transformer: 345/34.5 kV step-up transformer
 - MVA: 135 MVA
 - Voltage: 345/34.5 kV
 - Z: 13.5% on 135 MVA

- Collector System Equivalent Model:
 - Transmission Line:
 - $R = 0.001976$ p.u. on 100 MVA and line kV base (positive sequence)
 - $X = 0.008158$ p.u. on 100 MVA and line kV base (positive sequence)
 - $B = 0.037195$ p.u. on 100 MVA and line kV base (positive sequence)

- Wind Farm Parameters:
 - Machine Terminal Voltage: 13.8 kV
 - Machine Rated Power: 220 MW
 - Turbines:
 - GENSAL
 - Generator Step-Up Transformer
 - MVA: 165 Winding MVA
 - High Voltage: 34.5 kV
 - Low Voltage: 13.8 kV
 - Z: 6.5% on 165 Winding MVA

The dynamic data for the GENSAL Turbine Generator is shown below:





```

/
/***** GEN-2012-042 Western Plains *****/
/-----
/ G20CM34 Gas Medium Speed Engine
/
583503 'GENSAL' 1
      2.5620   0.0340   0.0670   0.85956   0.0000
      1.2900   0.7700   0.2870   0.2330   0.0920
      0.0700   0.2800   /
583503 'ESAC8B' 1
      0.0100  80.0000  20.0000  30.0000   0.0300
      1.0000   0.0005   9.1000   0.0000   0.1000
      1.0000   4.5000   1.1500   6.0000   0.8200 /
583503 'GGOV1' 1
      1         0
      0.0400   1.0000  10.0000 -10.0000   5.0000
      5.0000   0.0000   1.0000   1.0000   0.1500
      0.5000   1.5000   0.2000   0.5000   0.0000
      0.0000   1.0000   1.0000   1.0000  10.0000
      0.0000   1.0000  -1.0000   0.0020   0.0100
      1.0000   1.0000   0.0000   0.0000   1.0000
      1.0000  99.0000 -99.0000   /
/

```



K: Group 4 Dynamic Stability Analysis Report

See Quanta report on next page.



DISIS 2012-002

Group 4

Definitive Interconnection System Impact Study

January 30, 2013

Submitted To:
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EXECUTIVE SUMMARY

The Southwest Power Pool (SPP), on behalf of generation interconnection customers, desires a definitive interconnection system impact study for a group of generators in northwest Arkansas collectively referred to as Group 4. Group 4 is made of one generator:

- GEN-2012-026. 90 MW summer, 100 winter, generating plant connected at the Colby 115kV bus

There are 15 previously queued generators in Group 4.

SPP requested a stability analysis for the queued generator projects in Group 4. No power factor study was performed for GEN-2012-026 as it is not a wind farm. SPP did not request an Available Transfer Capability (ATC) study as part of this study.

Transient stability analysis shows oscillatory response to faults on the transmission lines at the Colby POI in the winter case (3 Φ faults on the Colby-Atwood 115 kV line and Colby-Seguin Tap 115 kV line, respectively, also known as FLT01 and FLT05.) This oscillation does not occur if reclosing is disabled on the Colby-Atwood 115 kV line and the Colby-Seguin Tap 115 kV line.

It also shows lesser oscillation to NERC Class C fault C23 (Prior outage of Colby-Mingo 115 kV line, 3 Φ fault on Colby-Hoxie Beach 115 kV line.)

No generators tripped offline but the oscillation noted above affected other generators in the monitored area for faults FLT01 and FLT05 in the winter case. In addition, failure of the GEN-2012-026 rotor speed to return to synchronous speed on a timely basis for faults FLT01 and FLT05 may indicate loss of synchronism for those faults.



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1. INTRODUCTION

The Southwest Power Pool (hereafter referred to as SPP) commissioned Quanta Technology to study the impact of a generator in the SPP interconnection queue referred to as Group.4. The site studied is in northwest Kansas, near the City of Colby, Kansas.

The site studied is:

- GEN-2012-026. 90 MW summer, 100 MW winter, generating plant connected to the Colby 115kV bus.

SPP did not request an Available Transfer Capability (ATC) study. The ATC study will be required when the generation companies request transmission service.

SPP requested a stability analysis for all of the generation in Group 4. No power factor analysis for GEN-2012-026 is required. Quanta Technology performed a dynamics study utilizing SPP's list of faults as follows:

1. Determine the ability of the generators to remain in synchronism following three phase and single line to ground faults.

Because there were no wind farms studied in Group 4, a reactive compensation and low voltage ride through study was not performed or needed.

The results of the study are given in the following sections.

2. STUDY METHODOLOGY

SPP provided 2014 summer peak and 2014 winter peak load flow cases in PSS/E format. Table 2-1 below shows the total demand and generation in the monitored areas.

Table 2-1: Description of Study Areas

Area #	Area Name	2014 Summer Peak		2014 Winter Peak	
		Load (MW)	Generation (MW)	Load (MW)	Generation (MW)
520	AEPW	10434.1	8485.5	7953.8	6130.6
524	OKGE	6506.6	11337.3	4559.2	9140.0
525	WFEC	1434.8	1255.7	1314.6	1031.2
526	SPS	6149.1	6899.6	4614.0	5201.5
531	MIDW	409.5	424.2	292.8	434.2
534	SUNC	1222.1	2180.1	794.6	1825.4
536	WERE	5890.7	5424.7	3900.8	3872.1

POWER FACTOR ANALYSIS

No power factor analysis was performed as a part of this study since the interconnection customer was not a wind farm.

DYNAMIC ANALYSIS

The study areas are shown in Table 2-1. These areas are monitored in the dynamic analysis.

The transmission line and transformer faults were simulated and synchronous machine rotor angles and wind turbine generator speeds were monitored to check whether synchronism is maintained following fault removal.

All line faults were simulated in the following fashion:

1. Apply fault to a line near one of its buses.
2. Clear fault after five (5) cycles by tripping the faulted line.
3. Wait 20 cycles and reclose the tripped line into the fault.
4. Leave fault on for five (5) cycles, then trip the line and remove the fault.

All transformer faults were simulated in the following fashion:

1. Apply fault at one of the transformer buses. In this analysis, the only transformer faults involve the Setab, Mingo, and Holcomb 345/115/13.8 kV three winding auto transformers. All transformer faults are simulated at the 345 kV bus.
2. Clear fault after five (5) cycles by tripping the faulted transformer. (No reclosing occurs for transformer faults in this study.)
3. All faults except 3 winding transformer faults were simulated in three phase (3 Φ) and single line to ground (1 Φ) versions. For faults 30 and below, odd numbered faults are 3 Φ , and even numbered faults are 1 Φ . Faults 31 thru 33 are 3 winding transformer faults, all of which are 3 Φ . For faults 34 and above, even numbered faults are 3 Φ and odd numbered faults are 1 Φ .

Following is a summary of the faults simulated in this analysis.

Table 2-2: Fault Descriptions

Fault No.	Description
C6	Summit to Smoky Hills 230 kV 3-phase fault and outage followed by Circle to Mullergren (Great Bend) 230 kV 3-phase fault, no reclosing
C7	Knoll to Smoky Hills 230 kV 3-phase fault and outage followed by Circle to Mullergren (Great Bend) 230 kV 3-phase fault, no reclosing
C22	Prior outage of South Hays-Great Bend 230 kV (530582-539679 Circuit #1) followed by three-phase fault on Knoll-Smoky Hill 230 kV (530558-530592 Circuit #1) reclose once at 90 cycles and trip permanently.
C23	Prior outage of Colby-Mingo 115 kV (530555-531429 Circuit #1) followed by three-phase fault on Colby-Hoxie-Beach 115 kV (530555-530556 Circuit #1 and 530556-530557 Circuit #1) reclose once at 20 cycles and trip permanently
C24	Fault on Knoll 230/115 kV transformer (530561-530558-530629 ckt 1) with breaker 3010 failure resulting in clearing Knoll-Redline-Beach 115 kV line
1&2	Colby (530555) to Atwood (530554) 115kV line, near Colby
3&4	Colby (530555) to Mingo (531429) 115kV line, near Colby
5&6	Colby (530555) to Seguin Tap (530682) 115kV line, near Colby
7&8	Ruleton (531357) to Lawn Ridge (531368) 115kV line, near Ruleton
9&10	NSI Tap (531356) to Kanardo (531354) 115kV line, near NSI
11&12	Atwood (530554) to Bvervly (531488) 115kV line, near Atwood
13&14	Atwood (530554) to Atwood Switch (531364) 115kV line, near Atwood
15&16	Mingo (531429) to Brewster (531351) 115kV line, near Mingo
17&18	Mingo (531429) to Pheasant Run (530559) 115kV line, near Mingo
19&20	Setab (531465) to Holcomb (531449) 345kV line, near Setab
21&22	Setab (531465) to Mingo (531451) 345kV line, near Setab
23&24	Mingo (531451) to Red Willow (640325) 345kV line, near Mingo.
25&26	Holcomb (531449) to Buckner (531501) 345kV line, near Holcomb
27&28	Holcomb (531449) to Finney (523853) 345kV line, ckt 1, near Finney
29&30	Ness City (531456) to Ransom (531414) 115kV line, near Ness City
31	Setab 345kV (531465) to 115kV (531464)/13.8kV (531259) transformer
32	Mingo 345kV (531451) to 115kV (531429)/13.8kV (531452) transformer
33	Holcomb 345kV (531449) to 115kV (531448)/13.8kV (531450) transformer
34&35	Knoll (530561) to Redline (530605) 115kV line, near Knoll
36&37	Knoll (530561) to Saline (530551) 115kV line, near Knoll
38&39	Rhoades (531373) to Phillipsburg (539685) 115kV line, near Rhoades

In order to simulate 1 Φ faults, equivalent reactances¹ were determined to be applied at the faulted buses. Table 2-3 presents equivalent reactors used in the transient stability study.

Table 2-3: Equivalent Reactors (MVAR) for Single Line to Ground Faults

Fault No.	Faulted Bus #	2014 Summer Peak	2014 Winter Peak
2	530555	-984.9	-1021.6
4	530555	-984.9	-1021.6
6	530555	-984.9	-1021.6
8	531357	-448.3	-455.3
10	531356	-395.6	-402.9
12	530544	-422.9	-437.6
14	530554	-422.9	-437.6
16	531429	-1435.7	-1442.3
18	531429	-1435.7	-1442.3
20	531465	-3252.6	-3226.6
22	531465	-3252.6	-3226.6
24	531451	-2431.6	-2452.8
26	531449	-5061.0	-4937.0
28	523853	-4992.4	-4881.2
30	531456	-443.8	-452.7
35	530561	-1547.9	-1541.0
37	530561	-1547.9	-1541.0
39	531373	-415.4	-429.4

No low voltage ride through analysis was performed since there are no wind farms in Group 4.

PROJECT DESCRIPTION

Following is a table of the proposed wind farm in Group 4.

Table 2-4: Points of Interconnection for Group 1

Request	Size (MW)	Turbine Model	Point Of Interconnection		
			Common Name	Bus #	Name in Model
GEN-2012-026	90 Summer 100 Winter	GENSAL	Colby 115kV	530555	Colby 3

¹ The equivalent reactances were calculated such that the voltage at the faulted bus dropped to 0.60 pu.

All of the following one-line diagrams use this color code for nominal voltages:

Blue **115 kV**

Black **lower voltage levels**

Following is the one-line diagram of the interconnections of GEN-2012-026. All voltages and line flows are from the 2014 summer peak base case.

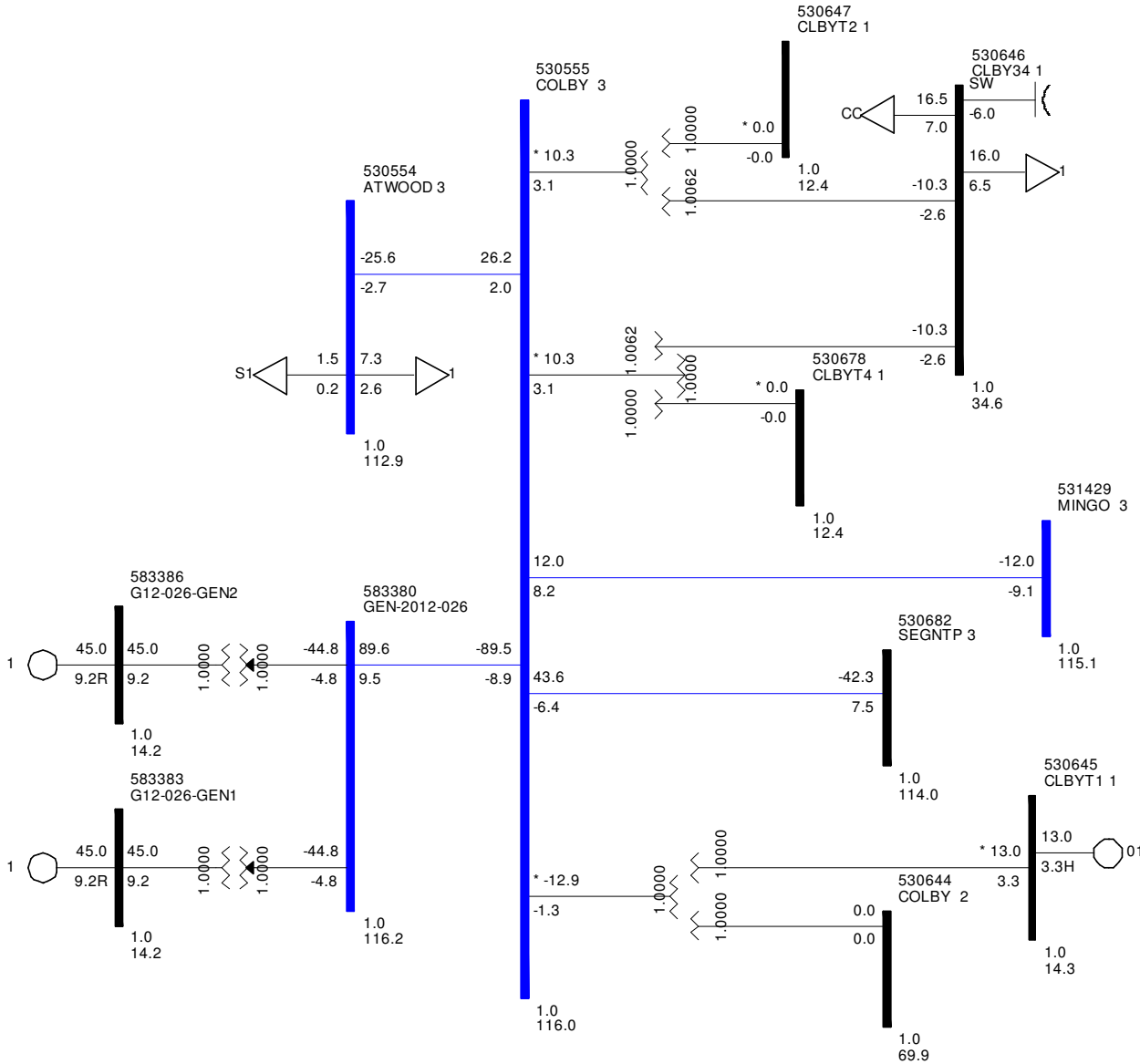


Figure 2-1: Interconnection One-Line Diagram

As illustrated below, the site for Group 4 is in northwest Kansas near Colby, Kansas.

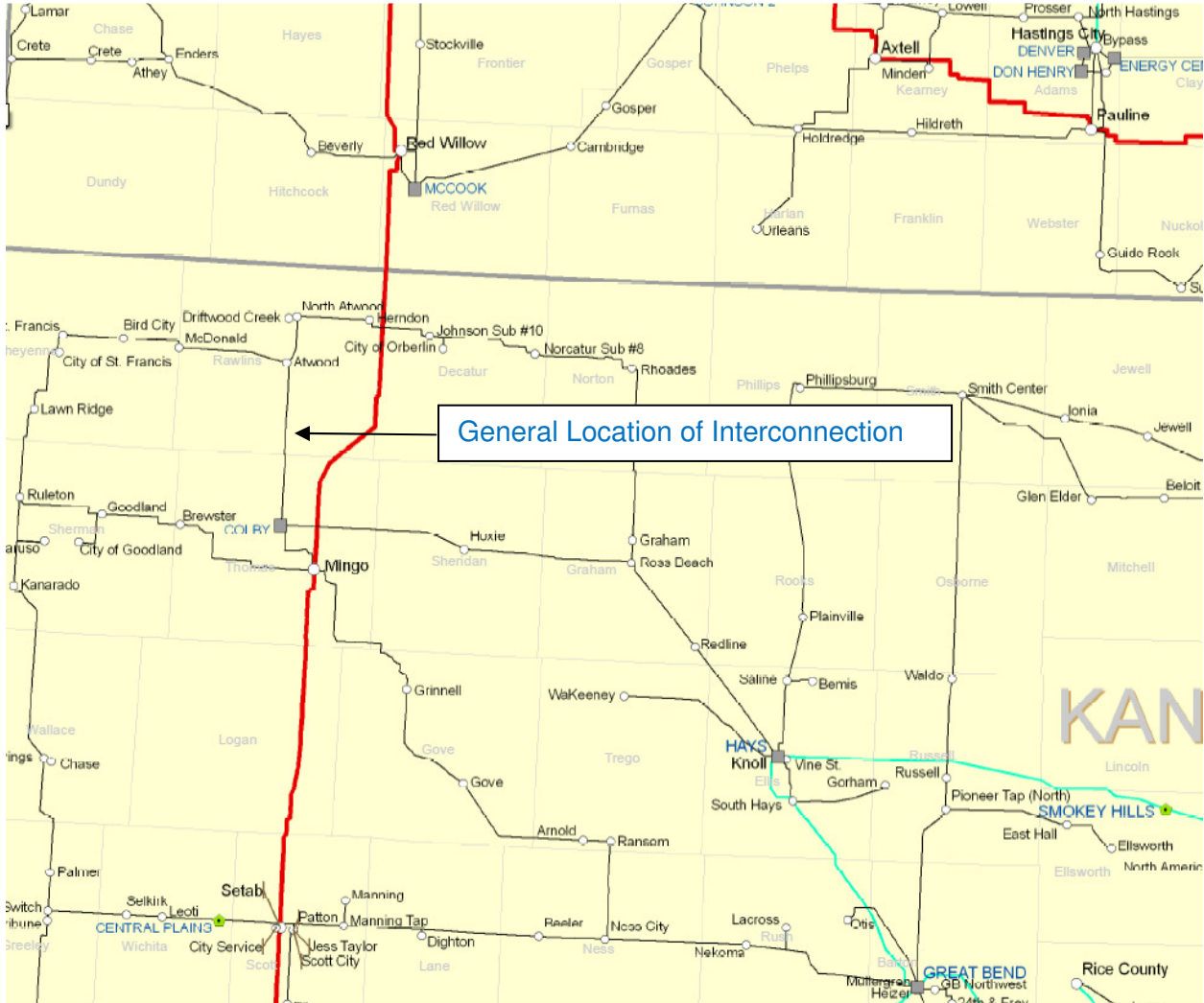


Figure 2-2: Geographical Location of Group 4 Project

The following is the detailed description of the combustion turbines in Group 4.

GEN-2012-026

- Generator Rating
 - Active power capability: 90 MW summer, 100 MW winter
 - Reactive power capability: 39 MVAR summer, 48 MVAR winter
 - Power factor: +/- 0.90

- Interconnection:
 - Voltage: 115 kV
 - Location: Existing Colby 115 kV substation
 - Transformer: Two step-up transformers connecting to the 115 kV
 - MVA: Rate A - 65, Rate B – 65
 - Voltage: 115/14.2 kV
 - X: 9.0% on 100 MVA

3. POWER FACTOR RESULTS

The proposed GEN-2012-026 is not a wind farm. As such, no power factor analysis was performed.

4. VOLTAGE RECOVERY RESULTS

The dynamic simulation showed highly oscillatory voltage response in the winter peak case for faults FLT01-3PH and FLT05-3PH (3Φ faults on the Colby-Atwood 115 kV line and Colby-Seguin Tap 115 kV line, respectively.) This oscillation does not occur if reclosing is disabled on the Colby-Atwood and Colby-Seguin Tap 115 kV lines. This oscillation did not occur in the summer peak case, nor did it occur with a fault admittance of -1021.6 MVAR to simulate a 1Φ fault. This oscillation occurs with fault admittances above approximately -6500 MVAR (Colby-Atwood 115 kV faults), and -6800 MVAR (Colby-Seguin Tap 115 kV faults.)

Lesser oscillation was noted in the voltage response for NERC Class C fault C23 (Prior outage of Colby-Mingo 115 kV line, 3Φ fault on Colby-Hoxie Beach 115 kV line.) This oscillation settled within approximately 30 seconds in the summer peak case, but was sustained in the winter case. In the winter cases, the amplitude of oscillation was approximately 0.0072

pu, i.e. the POI voltage oscillated between 1.0127 and 1.0199 pu even after 60 seconds, at approximately 2 Hz.

Dynamic simulations were performed using each fault noted in Section 2. All faults were cleared after five (5) cycles. Faulted transmission lines were reclosed into the fault 20 cycles after the initial clearing, then cleared and locked out after five (5) more cycles. Faulted transformers were not reclosed.

Voltage recovery as determined via dynamic simulation was checked against all contingencies. If the voltage recovers post-fault to a steady-state level consistent with the steady-state simulation, the generator interconnection is considered stable from a voltage standpoint.

Excluding FLT01 and FLT05 in the winter peak case as discussed above, all other faults had stable voltage response. In all cases, the post-fault POI voltage as determined by AC contingency response was between approximately 1.00 and 1.03 pu, which is consistent with the POI voltage determined by dynamic simulation. Following are the POI voltages as determined by dynamic simulation.

Table 4-1: Post-Fault Voltage Recovery by Dynamic Simulation

Fault No.	Voltage @ GEN-2012-026 POI (Colby 115 kV bus)	
	Summer Peak	Winter Peak
C6	1.0053	1.0145
C7	1.0064	1.0157
C22	1.0066	1.0154
C23	1.0168	1.0127 – 1.0199 Oscillation
C24	1.0002	1.0148
FLT01	1.0127	Severe Oscillation
FLT01-no reclosing	1.0123	1.0194
FLT02	1.0138	1.02
FLT03	1.02	1.0319
FLT04	1.0195	1.0317
FLT05	1.0085	Severe Oscillation
FLT05-no reclosing	1.0074	1.0153
FLT06	1.008	1.0158
FLT07	1.0069	1.0181
FLT08	1.0066	1.0178
FLT09	1.0084	1.0167
FLT10	1.0082	1.0164
FLT11	1.0092	1.0186
FLT12	1.0091	1.0186
FLT13	1.0073	1.0157
FLT14	1.0072	1.0156
FLT15	1.0089	1.0175
FLT16	1.0086	1.017
FLT17	1.0102	1.0185
FLT18	1.0099	1.0181
FLT19	1.0023	1.0139
FLT20	1.0021	1.0137
FLT21	1.0091	1.0166
FLT22	1.009	1.0164
FLT23	1.002	1.0125

Fault No.	Voltage @ GEN-2012-026 POI (Colby 115 kV bus)	
	Summer Peak	Winter Peak
FLT24	1.0017	1.0122
FLT25	1.0025	1.0129
FLT26	1.0024	1.0129
FLT27	1.0075	1.0162
FLT28	1.0071	1.0161
FLT29	1.0084	1.0175
FLT30	1.0083	1.0173
FLT31	1.0079	1.0165
FLT32	1.0076	1.0102
FLT33	1.0097	1.0189
FLT34	1.0028	1.0112
FLT35	1.0027	1.011
FLT36	1.004	1.0156
FLT37	1.0039	1.0155
FLT38	1.0114	1.0201
FLT39	1.0113	1.02

Following is the POI voltage response to the unstable faults FLT01 and FLT05 in the winter case.

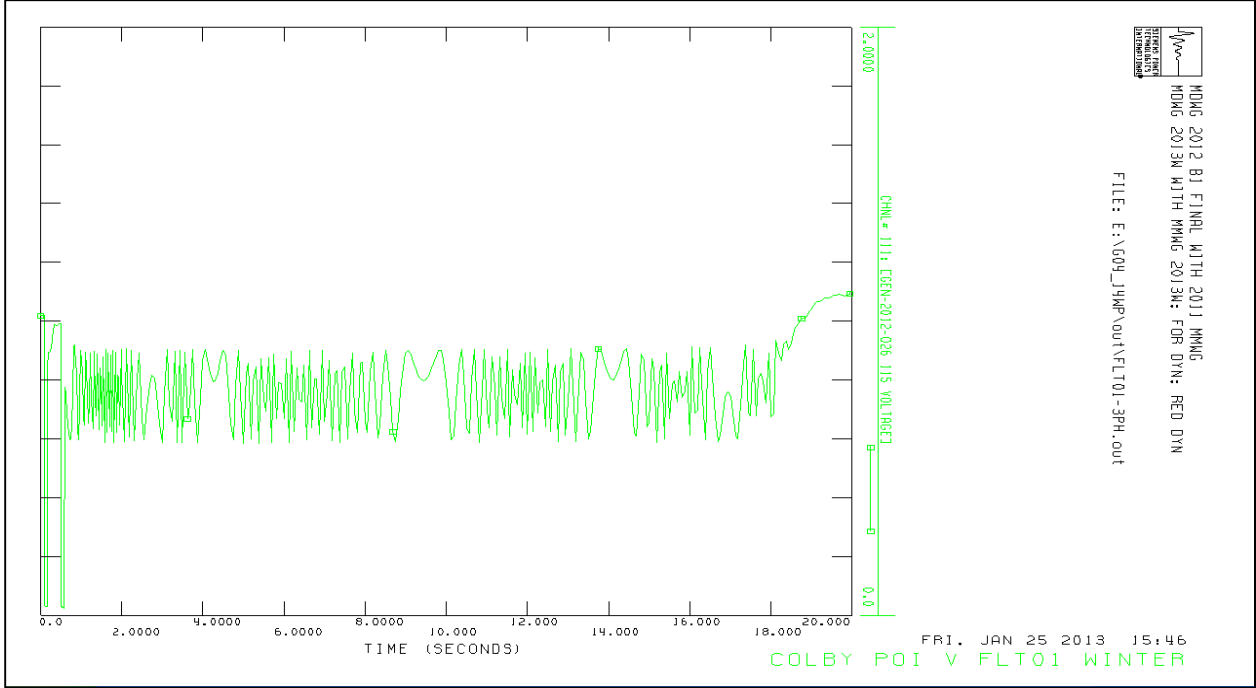


Figure 4-1: POI Voltage Recovery to FLT01-3PH, Winter Peak

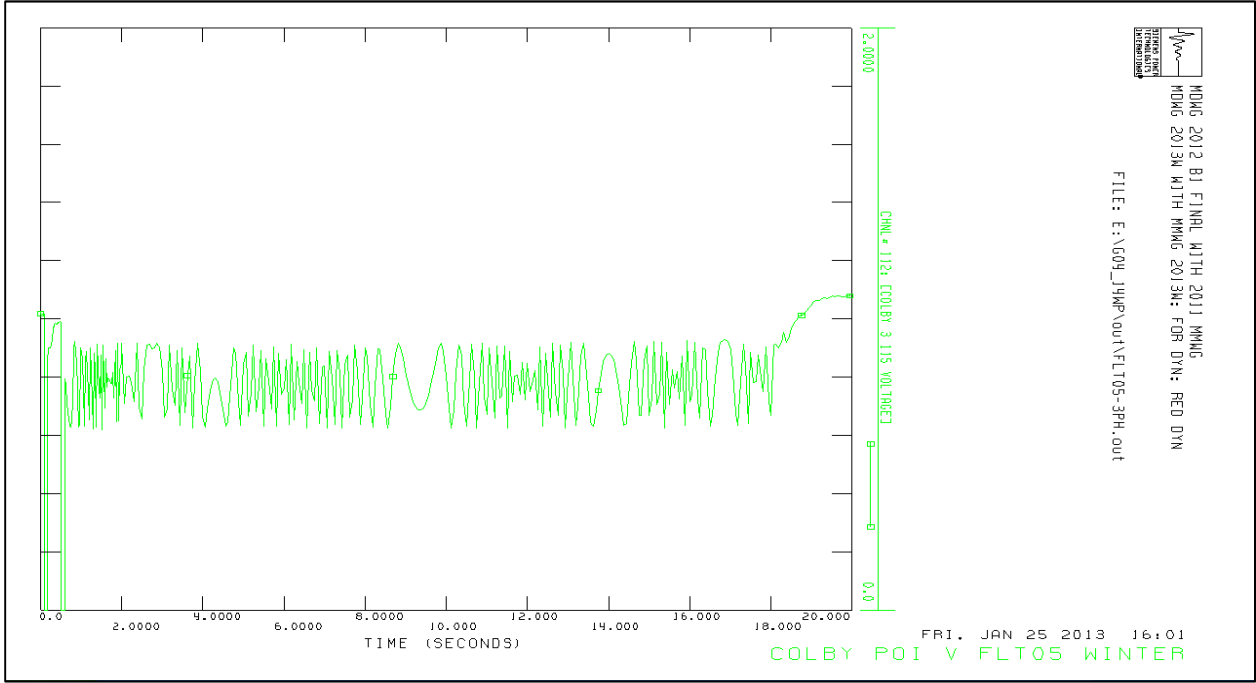


Figure 4-2: POI Voltage Recovery to FLT05-3PH, Winter Peak

If reclosing is disabled on the Colby-Atwood and Colby-Seguin Tap 115 kV lines in the winter case, the oscillation noted above does not occur. Following is the POI voltage for FLT01-3PH and FLT05-3PH in the winter peak case with reclosing disabled.

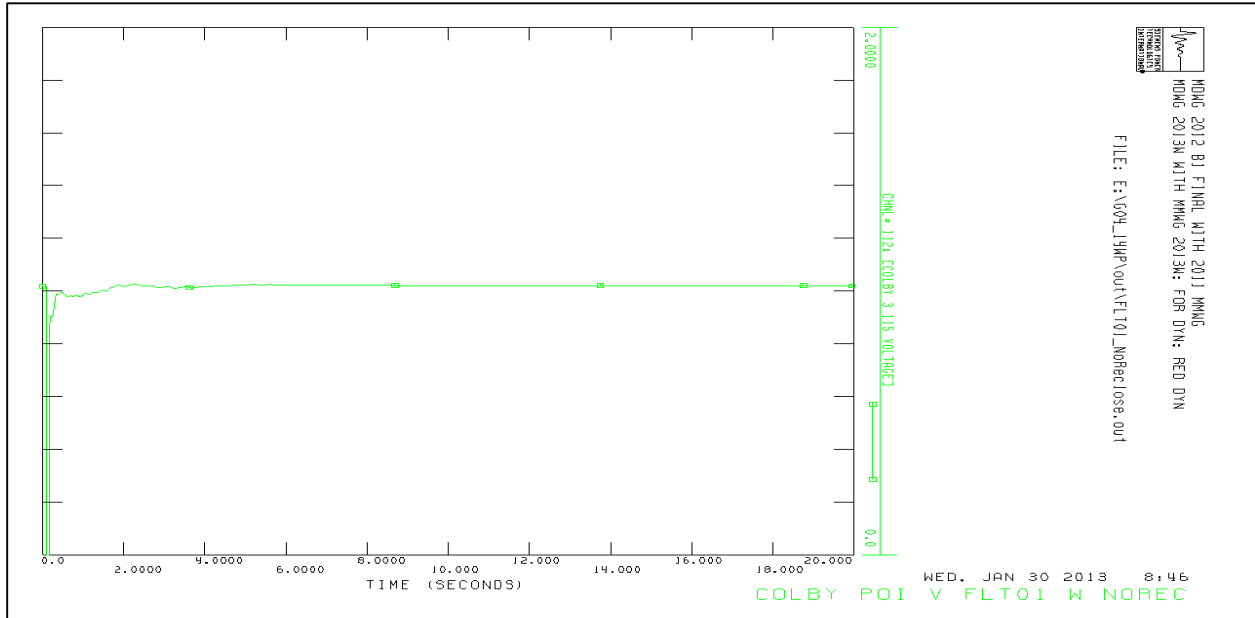


Figure 4-3: POI Voltage Recovery to FLT01-3PH, Winter Peak, Reclosing Disabled

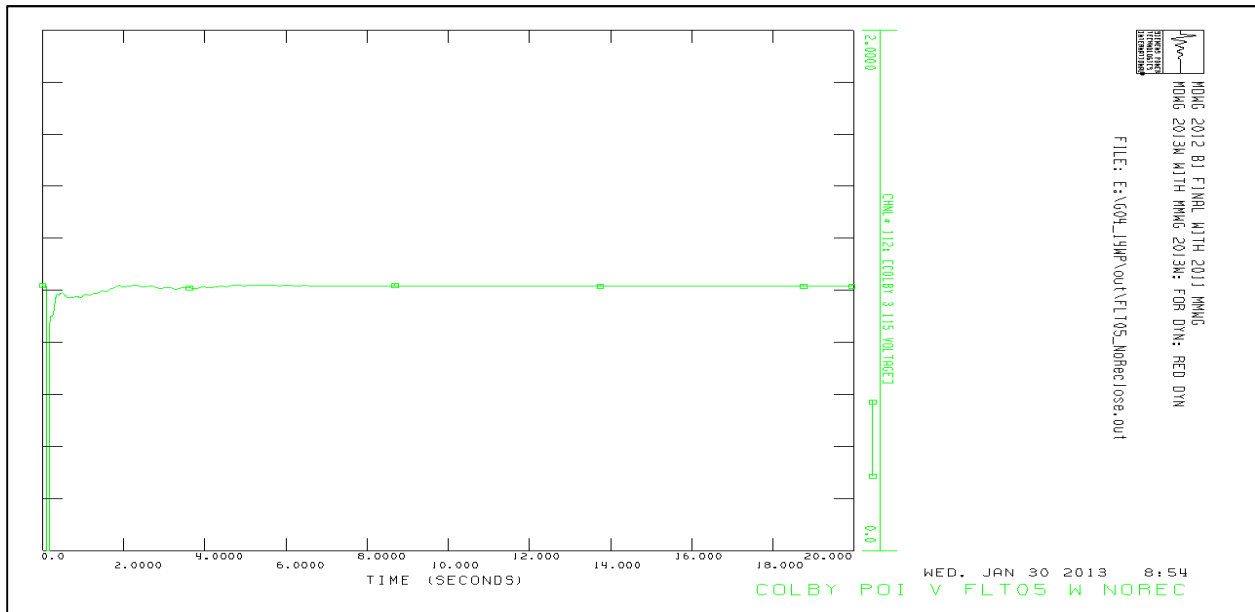


Figure 4-4: POI Voltage Recovery to FLT05-3PH, Winter Peak, Reclosing Disabled

In contrast, the POI voltage response to FLT01, FLT05 and all other faults was stable in the summer peak case. Following is the POI voltage response to fault FLT01-3PH and FLT05-3PH in the summer peak case.

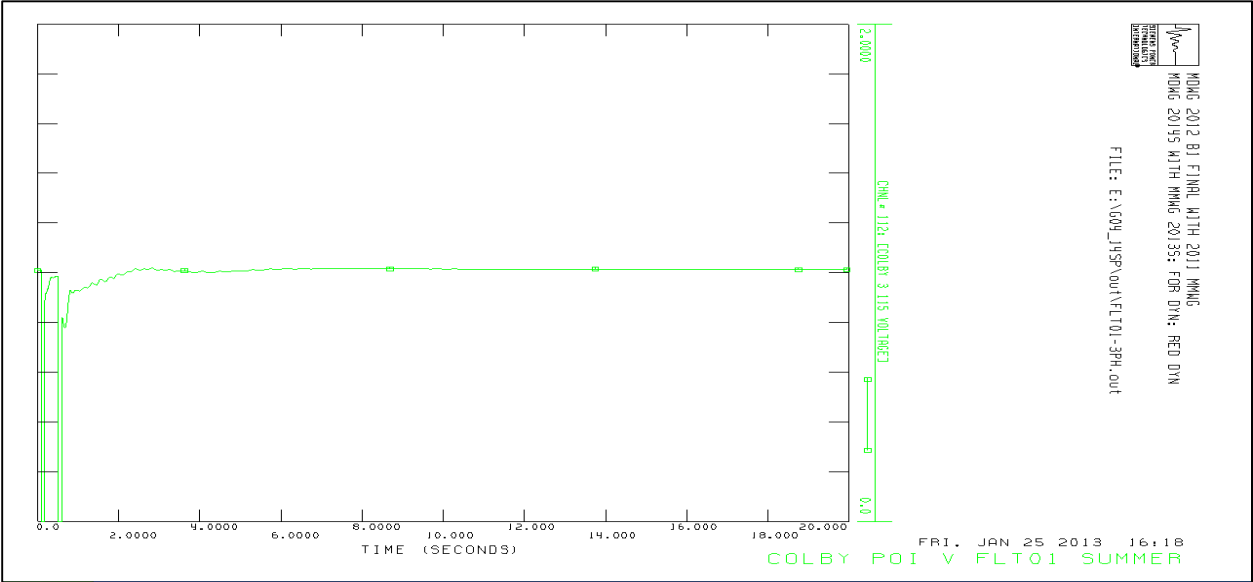


Figure 4-5: POI Voltage Recovery to FLT01-3PH, Summer Peak

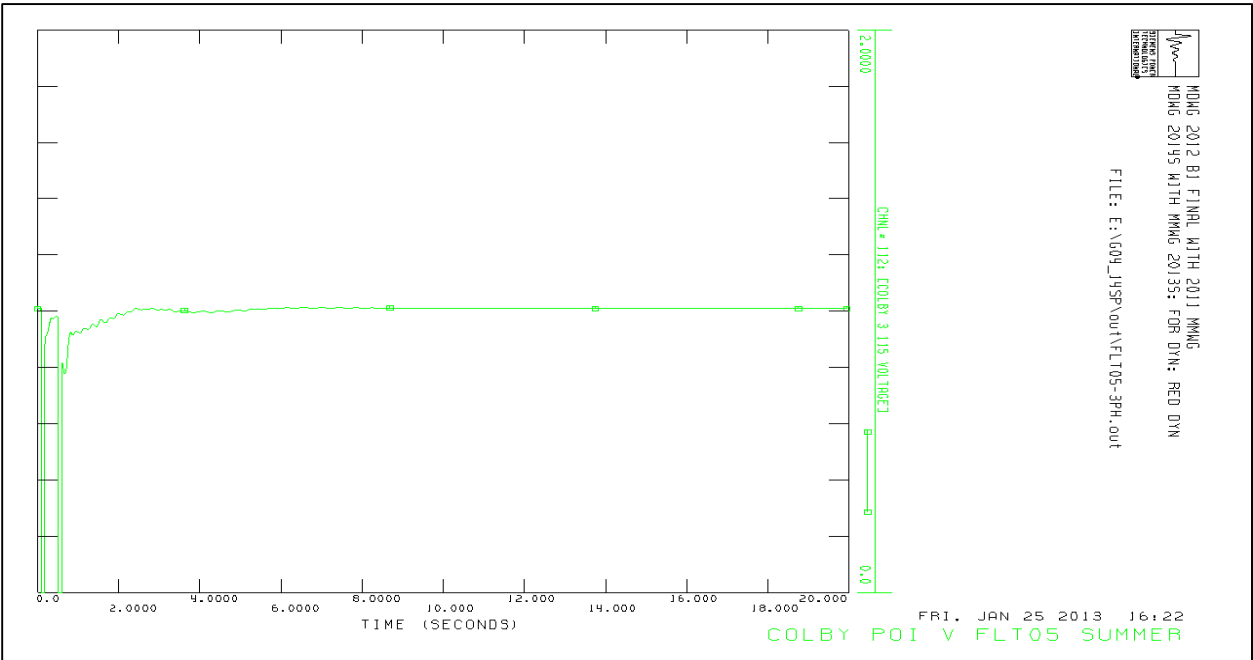


Figure 4-6: POI Voltage Recovery to FLT05-3PH, Summer Peak

5. TRANSIENT STABILITY RESULTS

Based on the dynamics results, GEN-2012-026 is unstable on a first-contingency basis. Oscillatory response and likely loss of synchronism was observed for faults FLT01-3PH and FLT05-3PH in the winter peak case, assuming reclosing is enabled. Disabling reclosing in the winter case stops the oscillation.

In the summer case, all studied faults were stable. The worst-case response, as determined by visual inspection of the plots, was also observed on faults FLT01-3PH and FLT05-3PH.

Following are graphs of the rotor speed for unstable fault FLT01-3PH and FLT05-3PH, and for mildly oscillatory fault C23. For FLT01 and FLT05, the speed starts at 0.0 (synchronous speed) and peaks at almost 1.0 (almost 2x synchronous speed.) This indicates either a likely loss of synchronism or a problem in the system model.

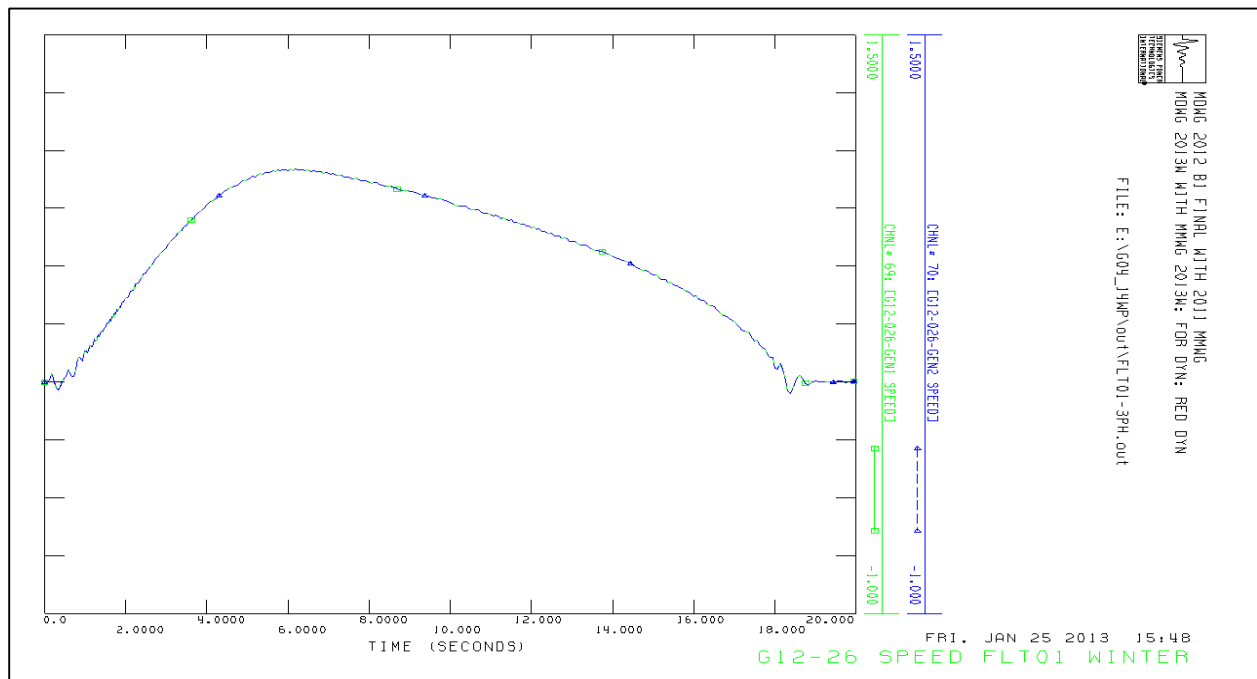


Figure 5-1: GEN-2012-026 Rotor Speed Response to FLT01-3PH, Winter Peak

If reclosing is disabled on the Colby-Atwood and Colby-Seguin Tap 115 kV lines in the winter case, the oscillation noted above does not occur. Following is the rotor speed response to FLT01 and FLT05 with reclosing disabled.

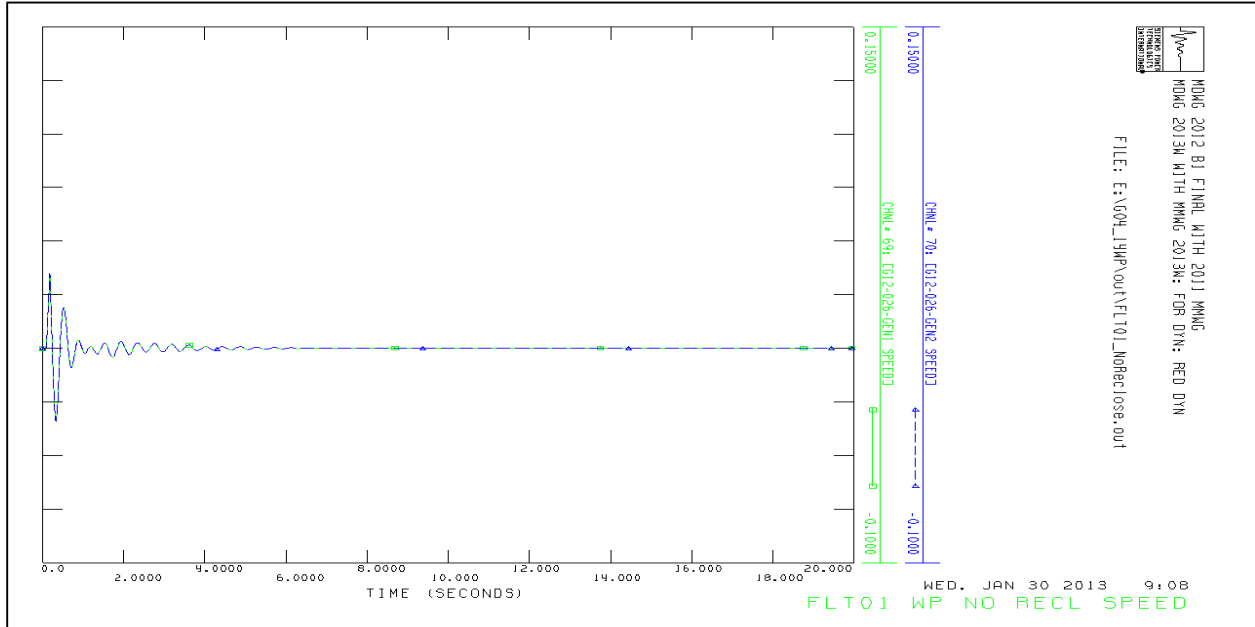


Figure 5-4: GEN-2012-026 Rotor Speed Response to FLT01-3PH, Winter Peak, Reclosing Disabled

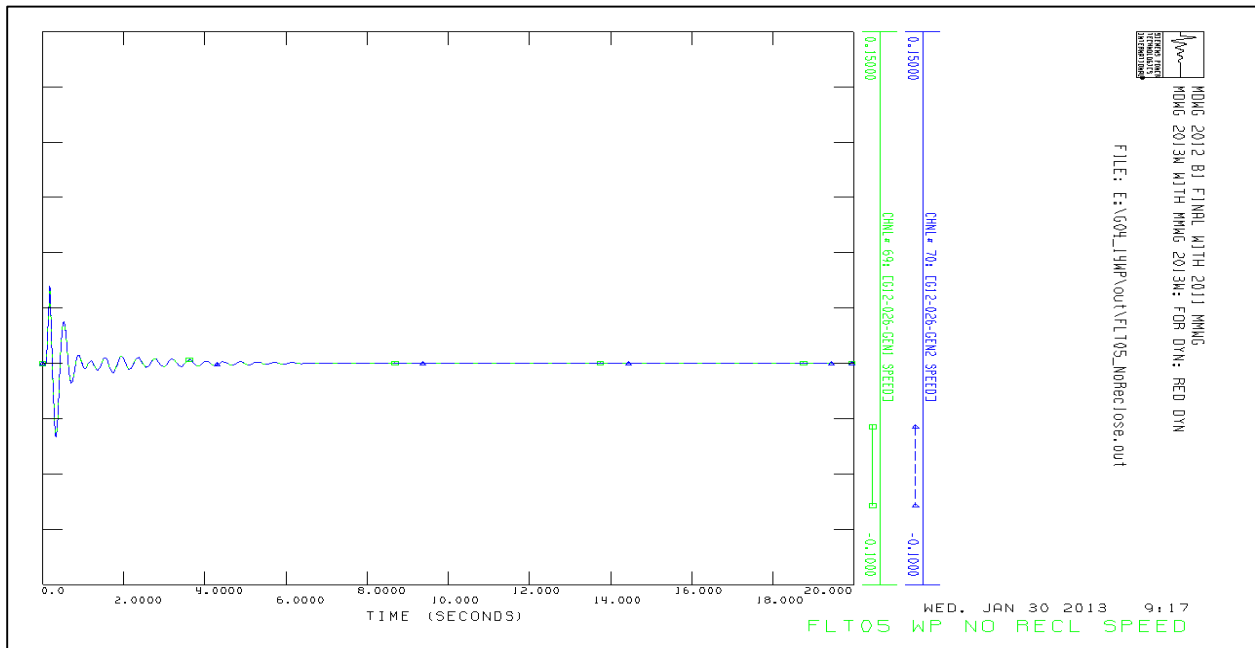


Figure 5-5: GEN-2012-026 Rotor Speed Response to FLT05-3PH, Winter Peak, Reclosing Disabled

In contrast, the rotor speed for GEN-2012-026 settles back to synchronous speed (0.0 pu) within 10 seconds in the summer peak case for all faults including FLT01 and FLT05. Also, the minor oscillation for fault C23 settles after approximately 30 seconds.

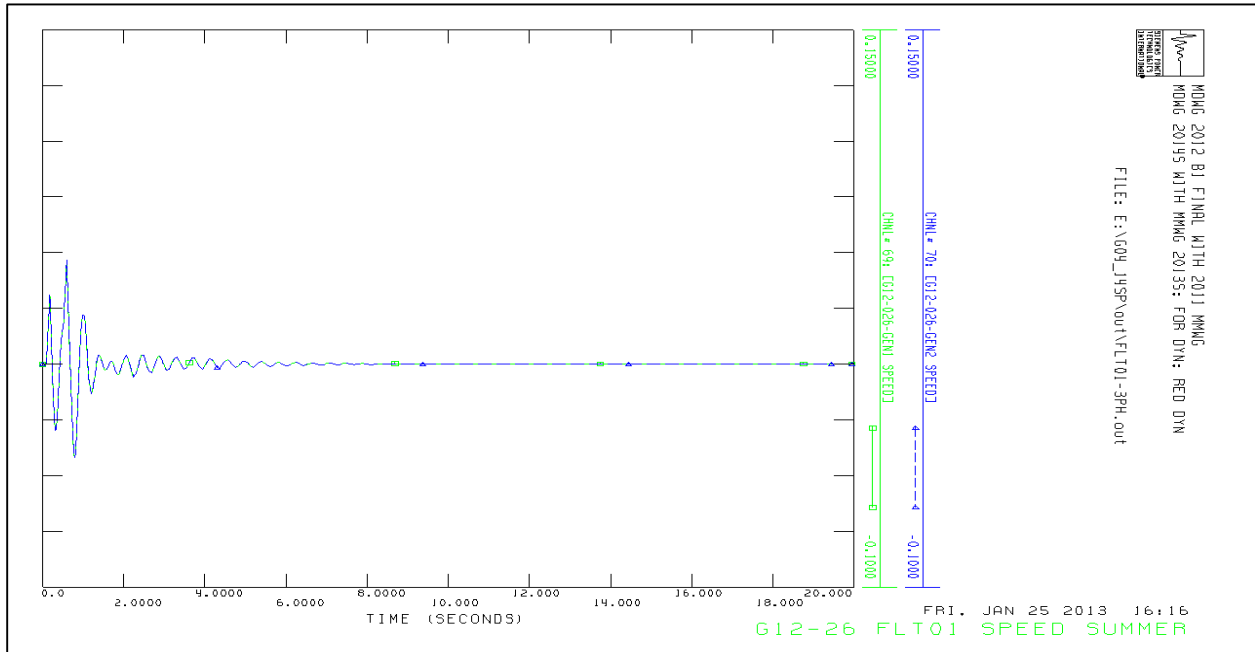


Figure 5-6: GEN-2012-026 Rotor Speed Response to FLT01-3PH, Summer Peak

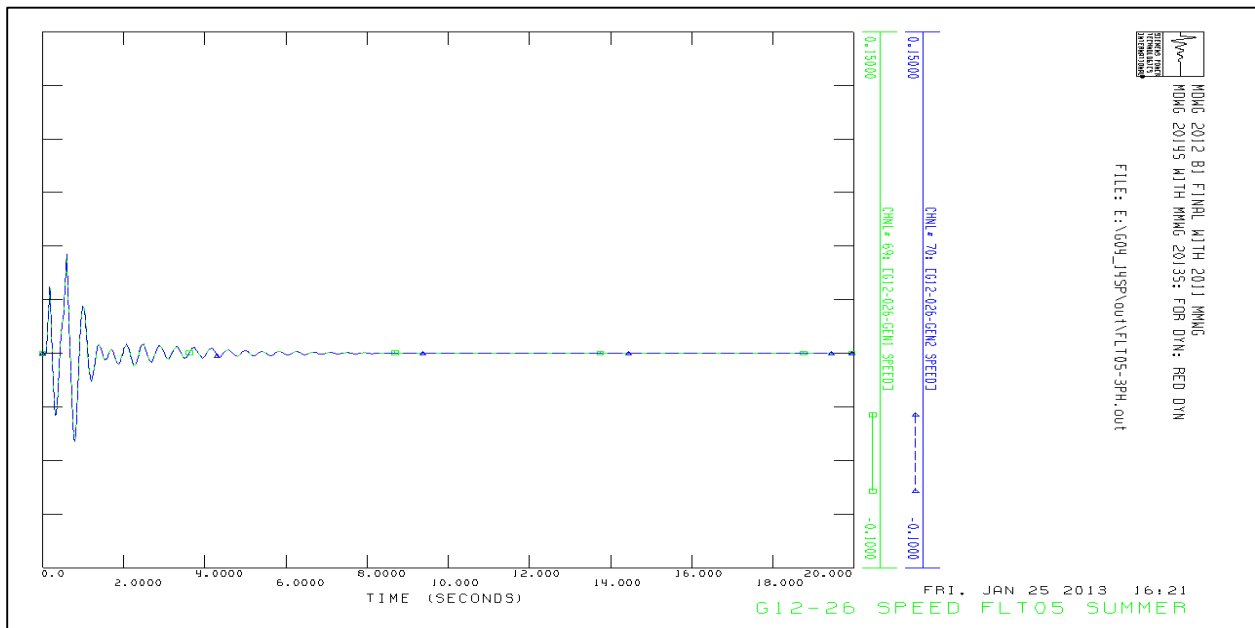


Figure 5-7: GEN-2012-026 Rotor Speed Response to FLT05-3PH, Summer Peak

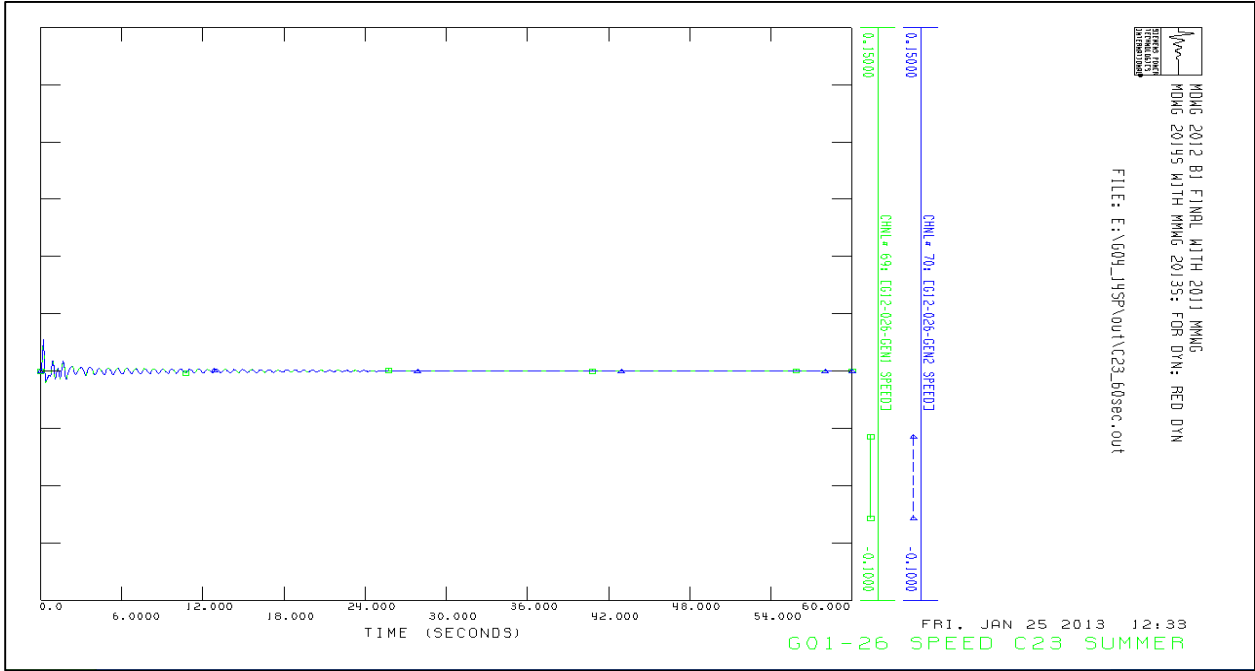


Figure 5-8: GEN-2012-026 Rotor Speed Response to C23, Summer Peak

The oscillatory behavior of GEN-2012-026 is also demonstrated by its electrical power output in the winter peak case for FLT01 and FLT05.

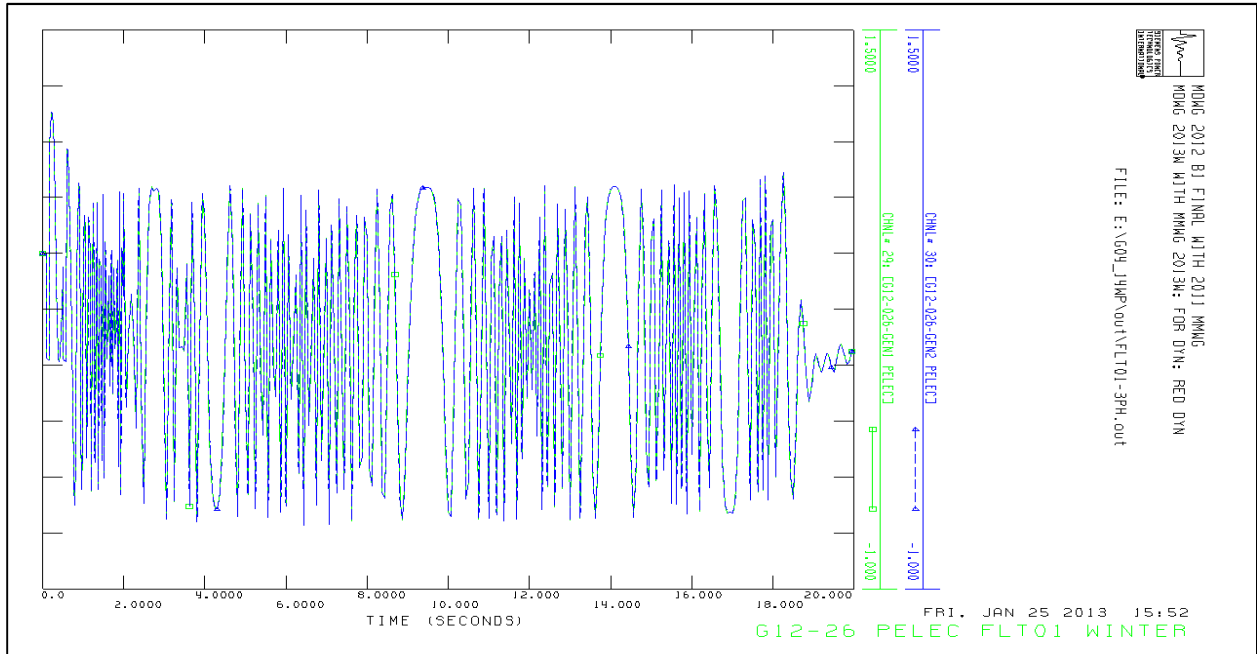


Figure 5-9: GEN-2012-026 Electrical Power Response to FLT01-3PH, Winter Peak

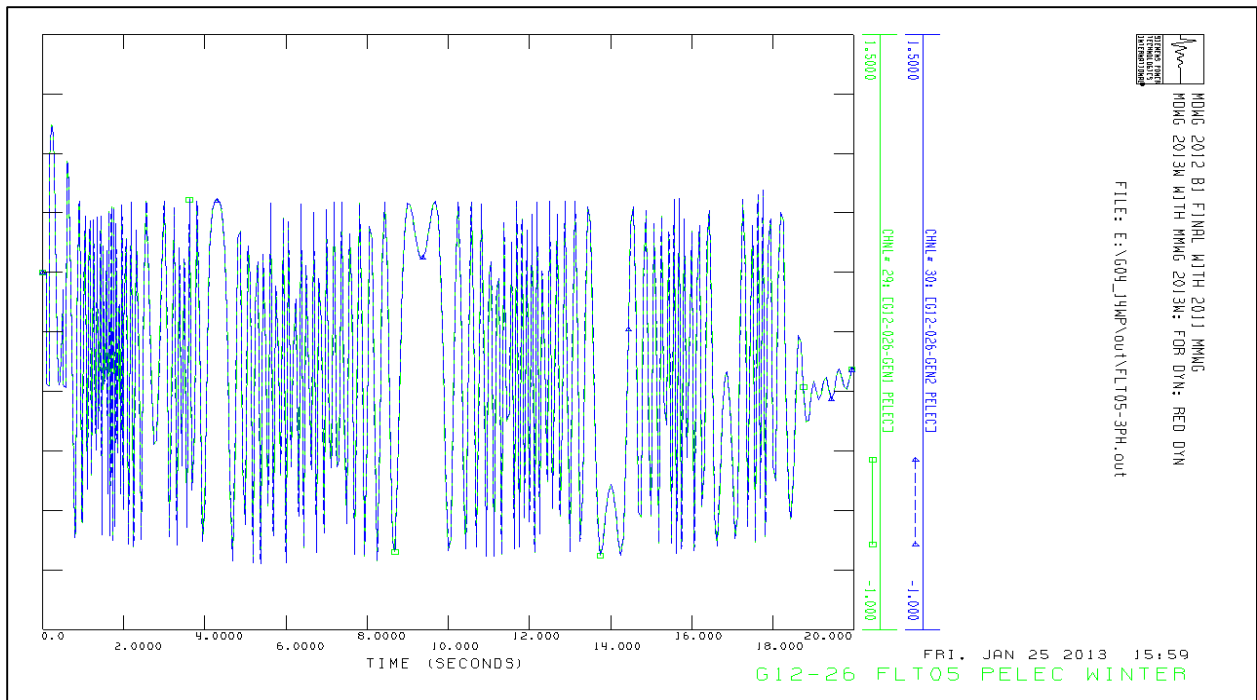


Figure 5-10: GEN-2012-026 Electrical Power Response to FLT05-3PH, Winter Peak

If reclosing is disabled on the Colby-Atwood and Colby-Seguin Tap 115 kV lines in the winter case, the oscillation noted above does not occur. Following is the electrical power response to FLT01 and FLT05 with reclosing disabled.

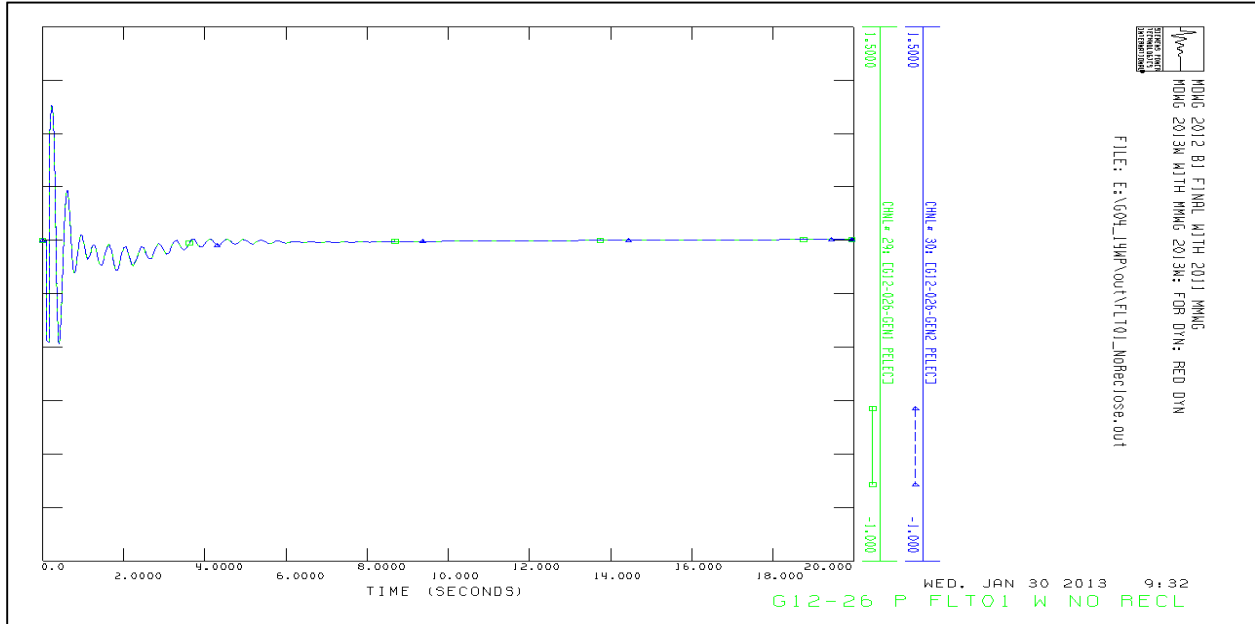


Figure 5-11: GEN-2012-026 Electrical Power Response to FLT05-3PH, Winter Peak, Reclosing Disabled

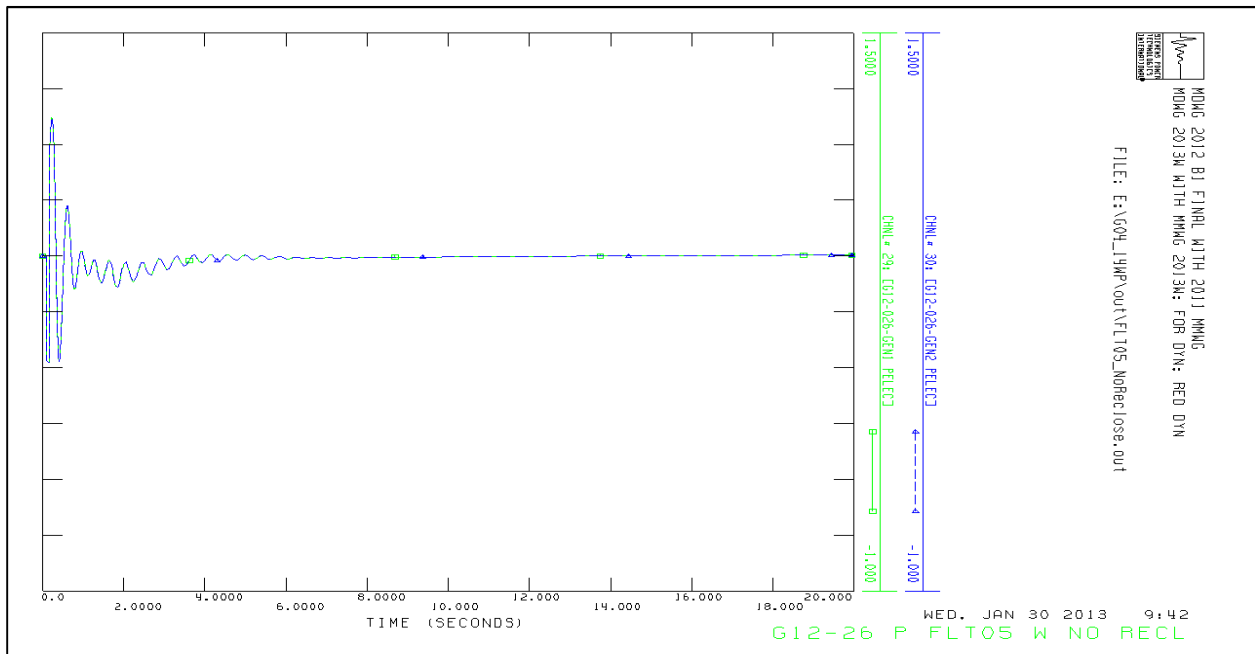


Figure 5-12: GEN-2012-026 Electrical Power Response to FLT05-3PH, Winter Peak, Reclosing Disabled

The electrical power response in the summer peak case is stable for all studied faults. FLT01 and FLT05 are shown below for the summer peak case.

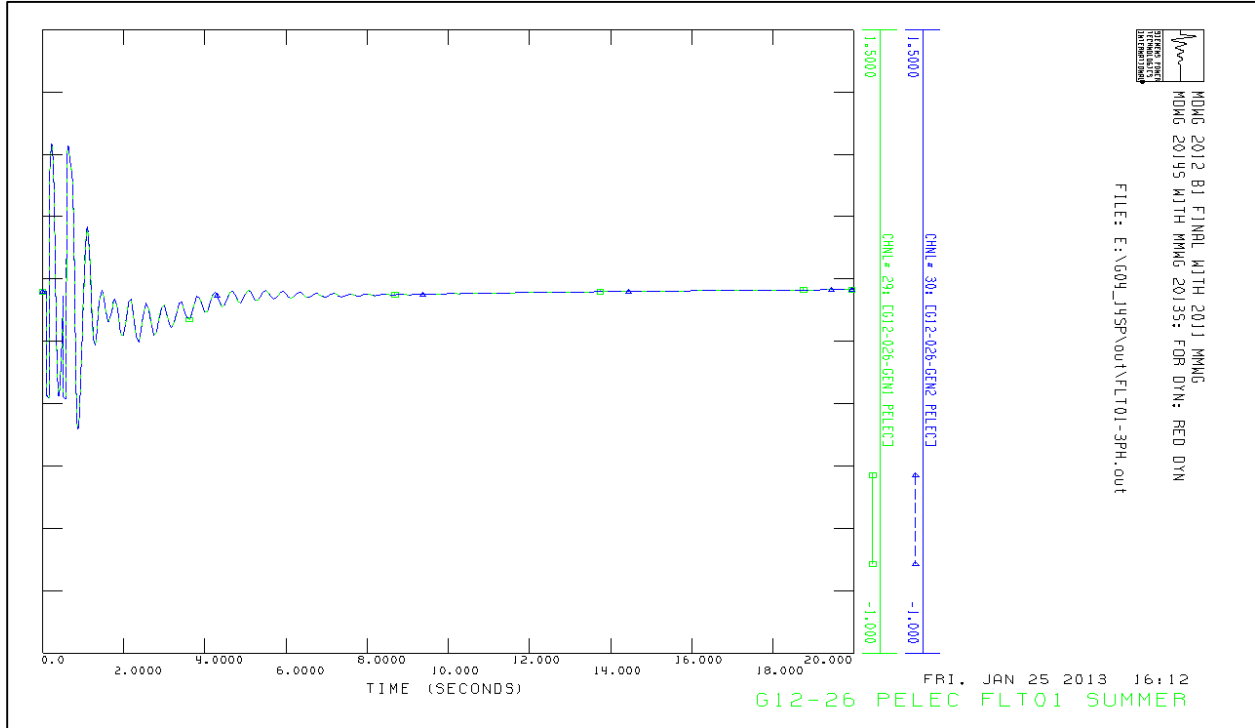


Figure 5-13: GEN-2012-026 Electrical Power Response to FLT01-3PH, Summer Peak

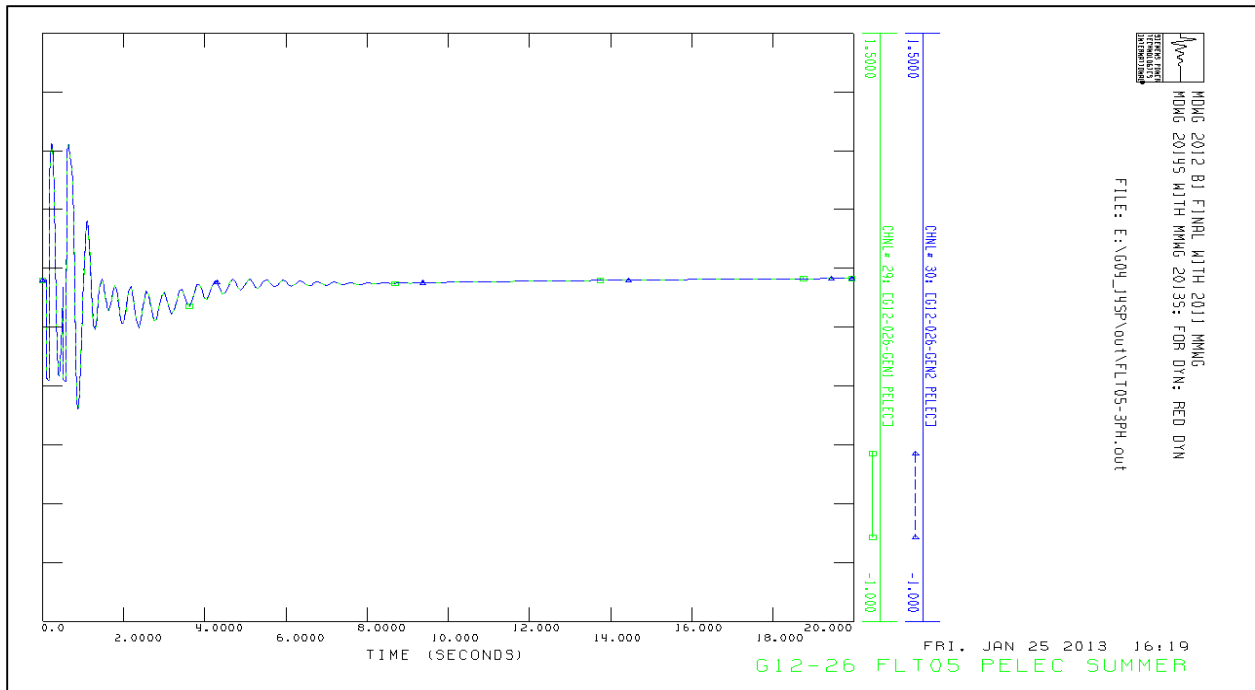


Figure 5-14: GEN-2012-026 Electrical Power Response to FLT05-3PH, Summer Peak

6. CONCLUSIONS

Based on the results of Group 4 studies, the following findings have been observed:

- GEN-2012-026 appears to be unstable in the winter case for transmission line failures near the Colby 115 kV POI (FLT01-3PH and FLT05-3PH—3 Φ faults on the Colby-Atwood 115 kV line and Colby-Seguin Tap 115 kV line, respectively.)
- This suspected instability is due to observed sustained voltage oscillation at the POI, sustained power oscillation, and failure of the rotor speed to return to synchronous speed in the winter case for faults FLT01 and FLT05.
- This oscillation does not occur if reclosing is disabled on the Colby-Atwood and Colby-Seguin Tap 115 kV lines. However, the oscillation with reclosing enabled indicates little stability margin at the Colby 115 kV POI.
- NERC Class C fault C23 (Prior outage of Colby-Mingo 115 kV line, 3 Φ fault on Colby-Hoxie Beach 115 kV line) causes lesser oscillation, but it does cause sustained oscillation of 0.0072 pu at 2 Hz in the POI voltage in the winter peak case.

L: Group 6 Dynamic Stability Analysis Report

See Excel report next page.

SPP DISIS-2012-002 Group 6 Definitive Impact Study

Final Report for
Southwest Power Pool

Prepared by:
Excel Engineering, Inc.
Project # 120515

January 22, 2013

Principal Contributors:

LaShel Marvig P.E.
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0. Certification

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the Laws of the States of **New Mexico and Texas**.

William Quaintance
New Mexico License Number 19505
Texas License Number 104268

Minnesota Excel Engineering, Inc.
Texas Firm License Number 7970

1. Background and Scope

The DISIS-2012-002 Group 6 Definitive Impact Study is a generation interconnection study performed by Excel Engineering, Inc. for its non-affiliated client, Southwest Power Pool (SPP). Its purpose is to study the impacts of interconnecting the projects shown in Table 1-1. The in-service date assumed for the generation addition was 2014.

Table 1-1. Interconnection Requests Evaluated in this Study

Request	Size (MW)	Generator Type	Point of Interconnection	Gen Buses
ASGI-2012-002	18	Vestas V82	Clovis 115kV (524808)	583280
GEN-2012-015	25	AE Solaron 500KW Inverter	Norton 115kV (524502)	583313
GEN-2012-020	478	GE 1.68MW	Tuco 230kV (525830)	583343 583346
GEN-2012-034	7 MW increase	GENROU	Mustang 230kV (527151)	527164
GEN-2012-035	7 MW increase	GENROU	Mustang 230kV (527151)	527165
GEN-2012-036	7 MW increase	GENROU	Mustang 230kV (527151)	583080
GEN-2012-037	196 Summer 203 Winter	GENROU	Tuco 345kV (525832)	583453
GEN-2012-038	196 Summer 203 Winter	GENROU	Tuco-Border 345kV Tap (562309)	583463

The prior-queued requests shown in Table 1-2 were included in this study and dispatched at 100% of rated capacity.

Table 1-2. Nearby Interconnection Requests Already in the Queue

Request	Size (MW)	Generator Type	Point of Interconnection	Gen Buses
GEN-2001-033	180	Mitsubishi 1000	San Juan Mesa 230kV (524885)	527407 to 527421
GEN-2001-036	80	CIMTR	Norton 115kV (524502)	524485
GEN-2006-018	170	GENSAL	Tuco 230kV (525830)	525841 525842 525843

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Request	Size (MW)	Generator Type	Point of Interconnection	Gen Buses
GEN-2008-008	60	GE 1.5MW	Graham 69kV (526693)	579388
GEN-2008-009	60	GE 1.5MW	San Juan Mesa 230kV (524885)	579392 579393
GEN-2008-022	300	GE 2.5MW	Tap on Eddy County – Tolk 345kV line (G08-022-POI, 560007)	577100 577110 577120
GEN-2009-067S	20	Emerson 0.5MW	Seven Rivers 69kV (528093)	575153
GEN-2010-006	180 Summer 205 Winter	GENROU	Jones_bus2 230kV (526337)	526333
ASGI-2010-010	42	GENSAL	Lovington 115kV (528334)	528331
ASGI-2010-020	30	Nordex 2.5MW	Tap LE-Tatum to LE-Crossroads 69kV (AS10-020-POI, 560360)	580088
GEN-2010-020	20	Emerson 0.5MW	Roswell 69kV (527563)	580101
ASGI-2010-021	15	Mitsubishi 1000A	Tap LE-Saundrtp to LE-Anderson 69kV (ASGI-021-POI, 560364)	580083
GEN-2010-046	56	GENSAL	Tuco 230kV (525830)	580043
GEN-2010-058	20	Emerson 0.5MW	Chaves County 115kV (527482)	581158
ASGI-2011-001	27.3	Suzlon 2.1MW	Lovington 115kV (528334)	575161
ASGI-2011-003	10	Sany 2.0MW	Hendricks 69kV (525943)	525942
GEN-2011-025	80	GE 1.6MW	Tap on Floyd County - Crosby County 115kV line (G11-025-POI, 562004)	581140
GEN-2011-045	180 Summer 205 Winter	GENROU	Jones_bus2 230kV (526337)	526334
GEN-2011-046	23 Summer 27 Winter	GENROU	Quay County 115kV (524472)	524471
GEN-2011-048	165 Summer 175 Winter	GENROU	Mustang 230kV (527151)	583080
ASGI-2011-004	19.2	GE 1.6MW	Crosby 69kV (525915)	583190
GEN-2012-001	61.2	CCWE 3.6MW	Tap Grassland to Borden 230kV (562089)	583200
GEN-2012-008	40 MW increase	GENROU	Mustang 115kV (527146)	527161 527162
GEN-2012-009	15 MW increase	GENROU	Mustang 230kV (527151)	527164
GEN-2012-010	15 MW increase	GENROU	Mustang 230kV (527151)	527165

The study included stability analysis of each proposed interconnection request. Contingencies that resulted in a prior-queued project tripping off-line, if any, were re-run with the prior-queued project's voltage and frequency tripping relays disabled. A power factor analysis was performed for the wind and solar farms in Table 1-1.

ATC (Available Transfer Capability) studies were not performed as part of this study. These studies will be required at the time transmission service is actually requested. Additional transmission upgrades may be required based on that analysis.

Study assumptions in general have been based on Excel's knowledge of the electric power system and on the specific information and data provided by SPP. The accuracy of the conclusions contained within this study is sensitive to the assumptions made with respect to generation additions and transmission improvements being contemplated. Changes in the assumptions of the timing of other generation additions or transmission improvements will affect this study's conclusions.

2. Executive Summary

The DISIS-2012-002 Group 6 Definitive Impact Study evaluated the impacts of interconnecting the Table 1-1 study projects to the SPP transmission system.

The stability results showed that Gen-2012-015 (Solaron PV inverters) and ASGI-2012-002 (Vestas V82 wind turbines) need to have LVRT (Low Voltage Ride Through) Options purchased for the generators. Without the LVRT the Solaron and Vestas generators tripped due to low voltage for several faults both summer and winter.

For the C3 fault with prior outage of Tolk-Roosevelt #1 230 kV line and a fault on the Tolk-Roosevelt #2 line, ASGI-2012-002 and GEN-2012-015 tripped off line due to **high** voltage even with the LVRT options enabled. This fault results in high voltages throughout the Roosevelt area.

For a fault on the GEN-2012-038-POI to Border 345kV line, the system damping is poor in the summer case, and the winter case is unstable. This fault results in very high flow on the Tolk-OKU-LES 345 kV line and low voltage at OKU 345. To fix this problem, a new 345 kV transmission line is needed from GEN-2012-038 to Sweetwater to Gracemont.

Final power factor and capacitor requirements for the Group 6 projects are listed in Table 4-2.

Any change in system or plant models or assumptions could change these results.

3. Study Development and Assumptions

3.1 Simulation Tools

The Siemens Power Technologies, Inc. PSS/E power system simulation program Version 32.1 was used in this study.

3.2 Models Used

SPP provided its latest stability database cases for both summer and winter peak seasons. These cases included the study and prior-queued projects. A power flow one-line diagram of the study projects are shown in Figure 3-1 through Figure 3-6.

The study plant transmission lines and substation transformers are modeled explicitly in the power flow cases. The wind and solar collector systems and generators are modeled as a single equivalent for each substation transformer. Steady-state and dynamic model data for the study plants are given in Appendix D.

One-line diagrams of the SPP 345 and 230 kV systems in the Group 6 area are shown in Appendix E.

No special modeling is required of line relays in these cases, except for the special modeling related to the wind and solar generation tripping.

3.3 Monitored Facilities

All generators and transmission buses in Areas 520, 524, 525, 526, 531, 534, and 536 were monitored.

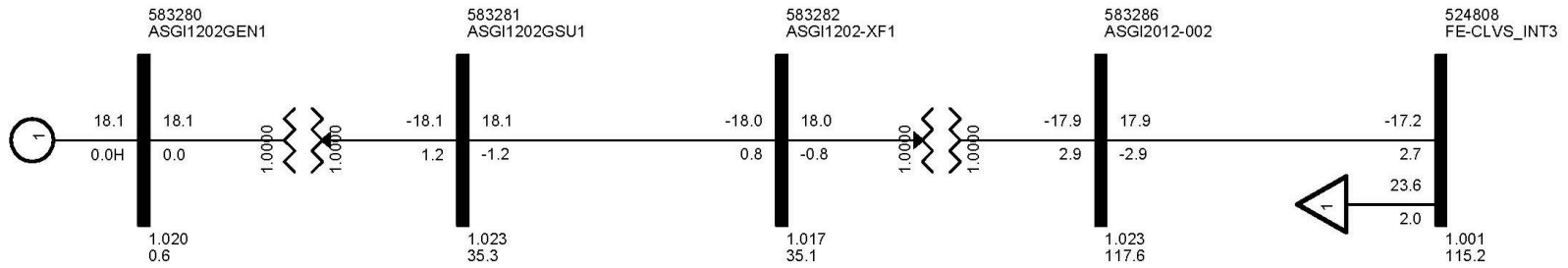


Figure 3-1. Power Flow One-line for ASGI-2012-002

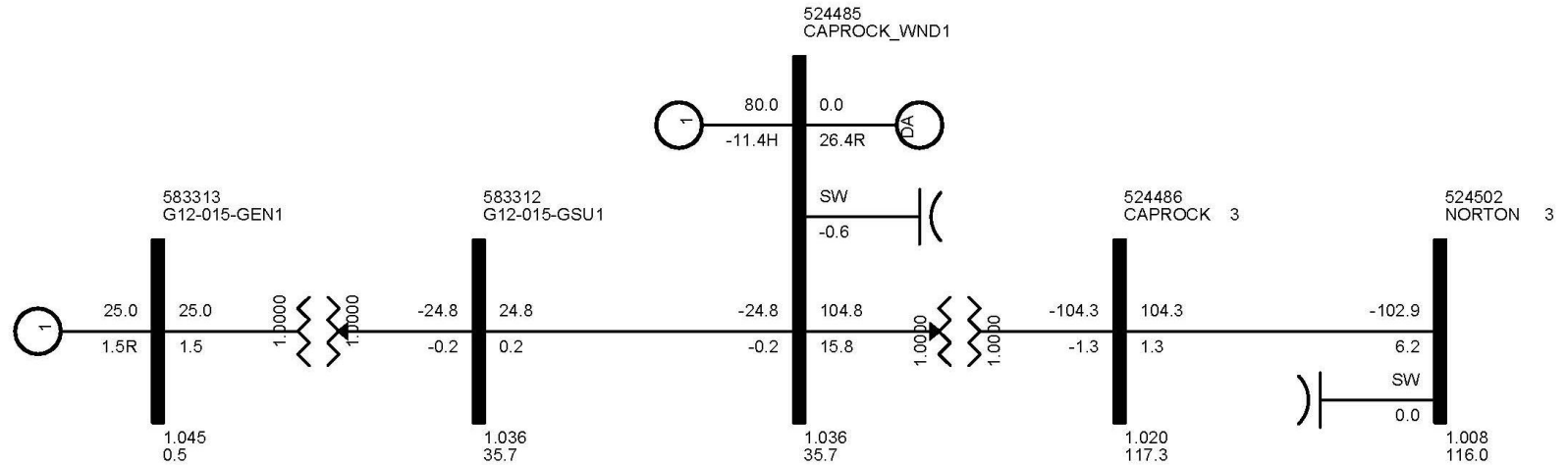


Figure 3-2. Power Flow One-line for GEN-2012-015

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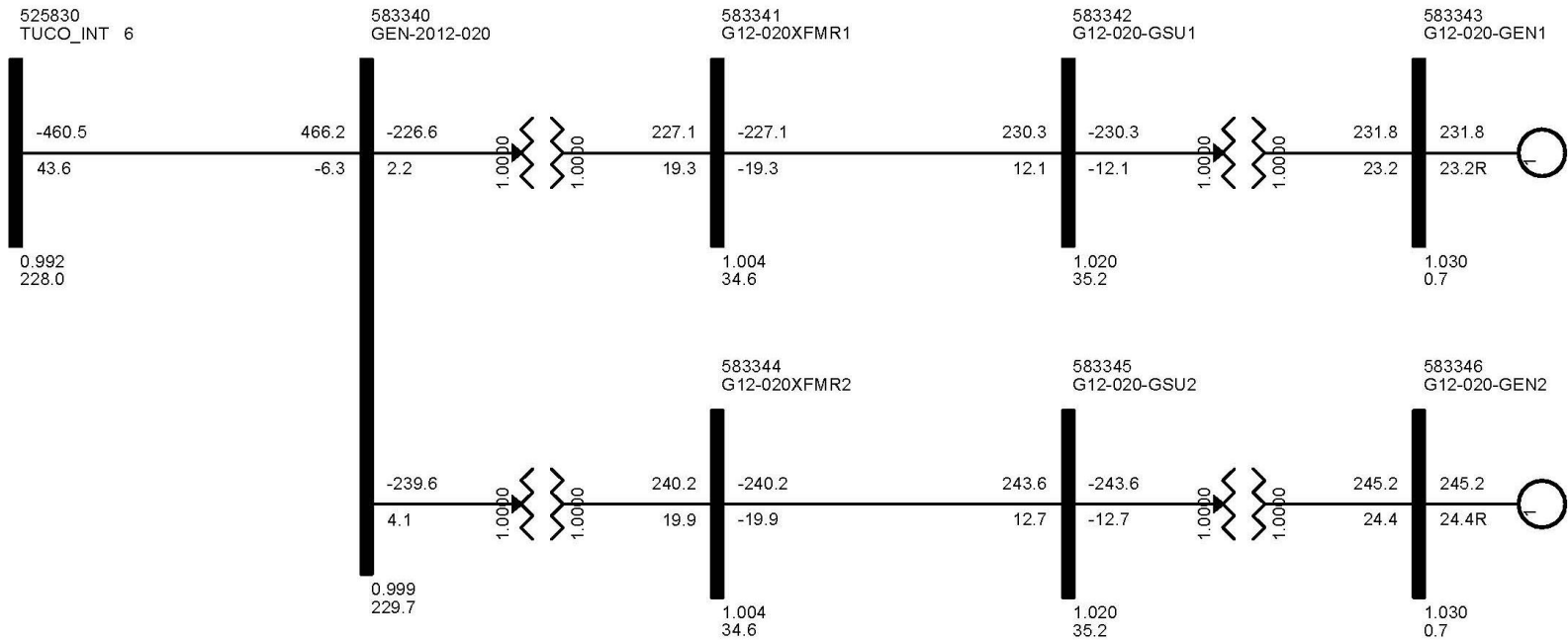


Figure 3-3. Power Flow One-line for GEN-2012-020

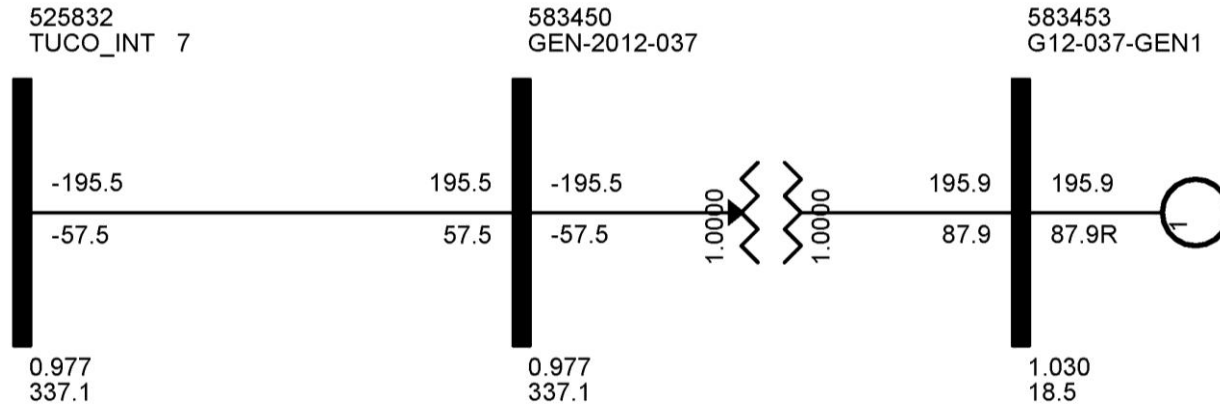


Figure 3-5. Power Flow One-line for GEN-2012-037

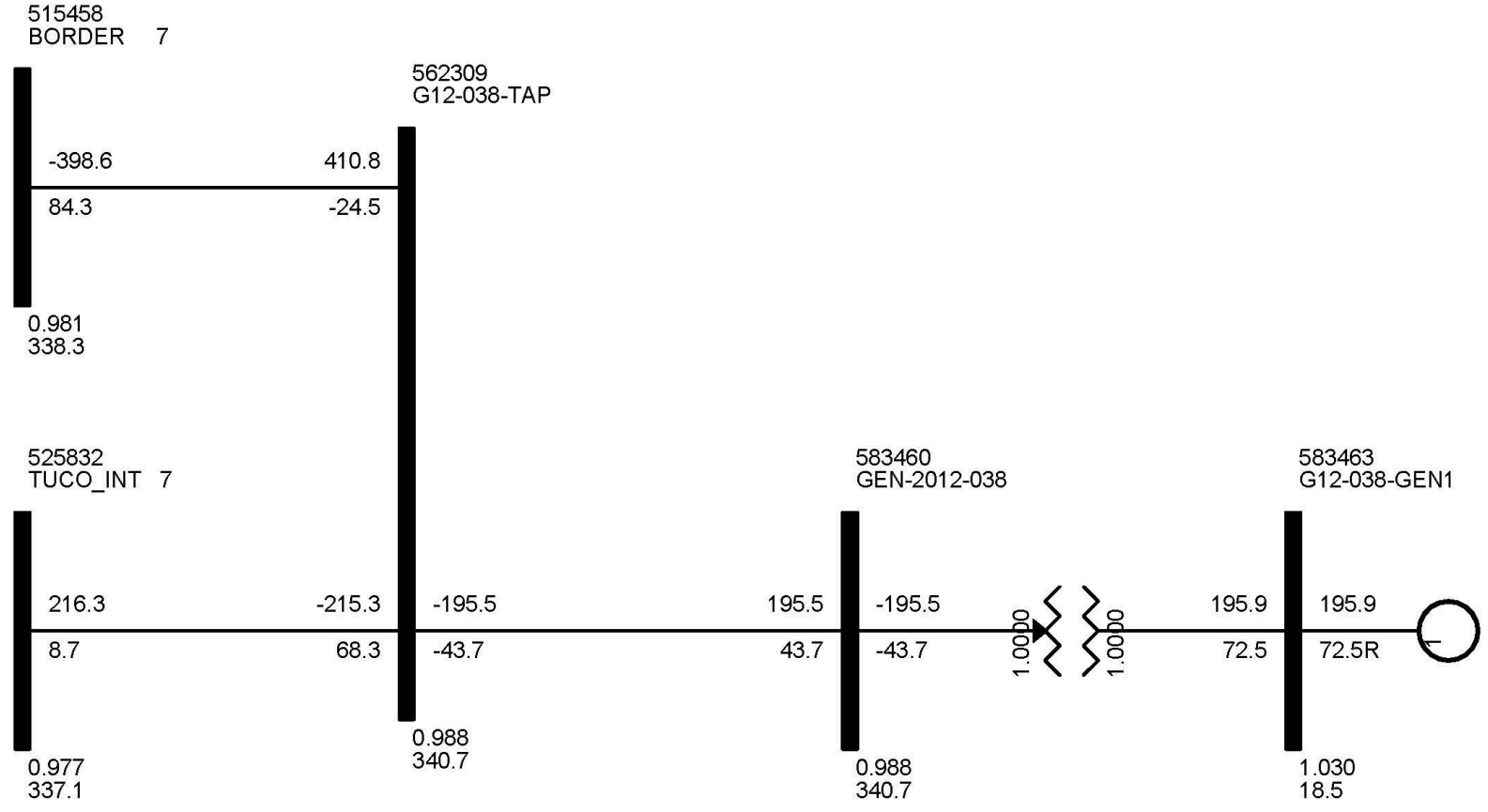


Figure 3-6. Power Flow One-line for GEN-2012-038

3.4 Performance Criteria

Wind generators must comply with FERC Order 661A on low voltage ride through for wind farms. Therefore, the wind generators should not trip off line for faults for under voltage relay actuation. If a wind generator trips off line, an appropriately sized SVC or STATCOM device may need to be specified to keep the wind generator on-line for the fault. SPP was consulted to determine if the addition of an SVC or STATCOM is warranted for the specific condition.

Contingencies that resulted in a prior-queued project tripping off-line, if any, were re-run with the prior-queued project's voltage and frequency tripping disabled to check for stability issues.

3.5 Performance Evaluation Methods

A power factor analysis was performed for all study projects that are wind farms. The power factor analysis consisted of modeling a var generator in each wind farm holding a voltage schedule at the POI. The voltage schedule was set to the higher of the voltage with the wind farm off-line or 1.0 per unit.

If the required power factor at the POI is beyond the capability of the studied wind turbines, then capacitor banks would be considered. Factors used in sizing capacitor banks would include two requirements of FERC Order 661A: the ability of the wind farm to ride through low voltage with and without capacitor banks and the ability of the wind farm to recover to pre-fault voltage. If a wind generator trips on high voltage, a leading power factor may be required.

ATC studies were not performed as part of this study. These studies will be required at the time transmission service is actually requested. Additional transmission facilities may be required based on subsequent ATC analysis.

Stability analysis was performed for each proposed interconnection request. Faults were simulated on transmission lines at the POIs and on other nearby transmission equipment. The faults in Table 3-1 were run for each case (three phase and single phase as noted).

Table 3-1. Fault Definitions for DISIS-2012-002 Group 6

Cont. No.	Contingency Name	Contingency Description
1	FLT01-3PH	3 phase fault on the Jones (526337) to Lubbock_STH (526269) 230kV line ckt1, near Jones. a. Apply fault at the Jones 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
2	FLT02-1PH	<i>Single phase fault and sequence like previous</i>
3	FLT03-3PH	3 phase fault on the Jones (526337) to Lubbock_EST (526299) 230kV line, near Jones. a. Apply fault at the Jones 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
4	FLT04-1PH	<i>Single phase fault and sequence like previous</i>
5	FLT05-3PH	3 phase fault on the Jones (526338) to Grassland (526677) 230kV line, near Jones. a. Apply fault at the Jones 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
6	FLT06-1PH	<i>Single phase fault and sequence like previous</i>
7	FLT07-3PH	3 phase fault on the Lubbock_STH (526269) to Wolfforth (526525) 230kV line, near Lubbock_STH. a. Apply fault at the Lubbock_STH 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
8	FLT08-1PH	<i>Single phase fault and sequence like previous</i>
9	FLT09-3PH	3 phase fault on the Wolfforth (526525) to Sundown (526435) 230kV line, near Wolfforth. a. Apply fault at the Wolfforth 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
10	FLT10-1PH	<i>Single phase fault and sequence like previous</i>
11	FLT11-3PH	3 phase fault on the Lubbock_EST (526299) to LP-Wadswrth (522888) 230kV line, near Lubbock_EST. a. Apply fault at the Lubbock_EST 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
12	FLT12-1PH	<i>Single phase fault and sequence like previous</i>
13	FLT13-3PH	3 phase fault on the Jones1 (526337) to Tuco_Int (525830) 230kV line, near Jones. a. Apply fault at the Jones 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
14	FLT14-1PH	<i>Single phase fault and sequence like previous</i>

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Cont. No.	Contingency Name	Contingency Description
15	FLT15-3PH	3 phase fault on the Grassland (526677) to Wolfforth (526525) 230kV line, near Grassland. a. Apply fault at the Grassland 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
16	FLT16-1PH	<i>Single phase fault and sequence like previous</i>
17	FLT17-3PH	3 phase fault on the G12_001-TAP (562089) to Borden (526830) 230kV line, near G12_001-TAP. a. Apply fault at the G12_001-TAP30kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
18	FLT18-1PH	<i>Single phase fault and sequence like previous</i>
19	FLT19-3PH	3 phase fault on the Curry (524822) to Deaf Smith #20 (524669) 115kV line, near Curry. a. Apply fault at the Curry 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
20	FLT20-1PH	<i>Single phase fault and sequence like previous</i>
21	FLT21-3PH	3 phase fault on the Curry (524822) to Norris Tap (524764) 115kV line, near Curry. a. Apply fault at the Curry 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
22	FLT22-1PH	<i>Single phase fault and sequence like previous</i>
23	FLT23-3PH	3 phase fault on the Curry (524822) to FE-Clovis (524838) 115kV line, near Curry. a. Apply fault at the Curry 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
24	FLT24-1PH	<i>Single phase fault and sequence like previous</i>
25	FLT25-3PH	3 phase fault on the Tolk (525549) to GEN-2008-022 (577104) 345kV line, near Tolk. a. Apply fault at the Tolk 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
26	FLT26-1PH	<i>Single phase fault and sequence like previous</i>
27	FLT27-3PH	3 phase fault on the Curry (524822) to Roosevelt (524908) 115kV line, near Curry. a. Apply fault at the Curry 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
28	FLT28-1PH	<i>Single phase fault and sequence like previous</i>
29	FLT29-3PH	3 phase fault on the Curry (524822) to Bailey County (525028) 115kV line, near Curry. a. Apply fault at the Curry 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.

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Cont. No.	Contingency Name	Contingency Description
30	FLT30-1PH	<i>Single phase fault and sequence like previous</i>
31	FLT31-3PH	3 phase fault on the Mustang (527149) to Amocowasson (526784) 230kV line, near Mustang. a. Apply fault at the Mustang 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
32	FLT32-1PH	<i>Single phase fault and sequence like previous</i>
33	FLT33-3PH	3 phase fault on the Mustang (527149) to Yoakum (526935) 230kV line, near Mustang. a. Apply fault at the Mustang 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
34	FLT34-1PH	<i>Single phase fault and sequence like previous</i>
35	FLT35-3PH	3 phase fault on the Mustang (527149) to Seminole (527276) 230kV line, near Mustang. a. Apply fault at the Mustang 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
36	FLT36-1PH	<i>Single phase fault and sequence like previous</i>
37	FLT37-3PH	3 phase fault on the Amocowasson (526784) to Yoakum (526935) 230kV line, near Amocowasson. a. Apply fault at the Amocowasson 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
38	FLT38-1PH	<i>Single phase fault and sequence like previous</i>
39	FLT39-3PH	3 phase fault on the Yoakum (526935) to Tolk_West (525531) 230kV line, near Yoakum. a. Apply fault at the Yoakum 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
40	FLT40-1PH	<i>Single phase fault and sequence like previous</i>
41	FLT41-3PH	3 phase fault on the Yoakum (526935) to Amoco_SS (526460) 230kV line, near Yoakum. a. Apply fault at the Yoakum 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
42	FLT42-1PH	<i>Single phase fault and sequence like previous</i>
43	FLT43-3PH	3 phase fault on the Yoakum (526935) to Lea_Cnty (527849) 230kV line, near Yoakum. a. Apply fault at the Yoakum 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
44	FLT44-1PH	<i>Single phase fault and sequence like previous</i>

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Cont. No.	Contingency Name	Contingency Description
45	FLT45-3PH	3 phase fault on the Mustang (527146) to Denver_N (527130) 115kV line, near Mustang. a. Apply fault at the Mustang 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
46	FLT46-1PH	<i>Single phase fault and sequence like previous</i>
47	FLT47-3PH	3 phase fault on the Mustang (527146) to Denver_S (527136) 115kV line, ckt2, near Mustang. a. Apply fault at the Mustang 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
48	FLT48-1PH	<i>Single phase fault and sequence like previous</i>
49	FLT49-3PH	3 phase fault on the Mustang (527146) to Seagraves (527202) 115kV line, near Mustang. a. Apply fault at the Mustang 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
50	FLT50-1PH	<i>Single phase fault and sequence like previous</i>
51	FLT51-3PH	3 phase fault on the Grassland (526676) to Lynn County (526656) 115kV line, ckt1, near Grassland. a. Apply fault at the Grassland 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
52	FLT52-1PH	<i>Single phase fault and sequence like previous</i>
53	FLT53-3PH	3 phase fault on the Tuco_Int (525832) Oklaunion (511456) 345kV line, near Tuco_Int. a. Apply fault at the GEN-2012-038 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
54	FLT54-1PH	<i>Single phase fault and sequence like previous</i>
55	FLT55-3PH	3 phase fault on the GEN-2012-038-POI (562309) to Border (515458) 345kV line, near GEN-2012-038. a. Apply fault at the GEN-2012-038 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
56	FLT56-1PH	<i>Single phase fault and sequence like previous</i>
57	FLT57-3PH	3 phase fault on the Tuco_Int (525832) to GEN-2012-038-POI (562309) 345kV line, near Tuco. a. Apply fault at the Tuco 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
58	FLT58-1PH	<i>Single phase fault and sequence like previous</i>

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Cont. No.	Contingency Name	Contingency Description
59	FLT59-3PH	3 phase fault on the Grassland 230kV (526677) to Grassland 115kV (526676) transformer, near the 230kV bus. a. Apply fault at the Grassland 230kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
60	FLT60-3PH	3 phase fault on the Borden 230kV (526830) to CR-Vealmoor 138kV (522896) transformer, near the 230kV bus. a. Apply fault at the Borden 230kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
61	FLT61-3PH	3 phase fault on the Mustang 230kV (527149) to Mustang 115kV (527146)/ 13.2kV (527143) transformer, near the 230kV bus. a. Apply fault at the Mustang 230kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
62	FLT62-3PH	3 phase fault on the Yoakum 230kV (526935) to Yoakum 115kV (526934) transformer, ckt2, near the 230kV bus. a. Apply fault at the Yoakum 230kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
63	FLT63-3PH	3 phase fault on the Seminole 230kV (527276) to Seminole 115kV (527275) transformer, ckt2, near the 230kV bus. a. Apply fault at the Seminole 230kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
64	FLT64-3PH	3 phase fault on the Tucu 345kV (525832) to Tucu 230kV (525830)/ 13.2kV (525824) transformer, near the 345kV bus. a. Apply fault at the Tucu 345kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
65	FLT65-3PH	3 phase fault on the Tucu 230kV (525830) to Tucu 115kV (525828)/ 13.2kV (525819) transformer, near the 230kV bus. a. Apply fault at the Tucu 230kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
66	FLT66-3PH	3 phase fault on the Swisher 230kV (525213) to Swisher 115kV (525212)/ 13.2kV (525211) transformer, near the 230kV bus. a. Apply fault at the Swisher 230kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
67	FLT67-3PH	3 phase fault on the Carlisle 230kV (526161) to Carlisle 115kV (526160)/ 13.2kV (526167) transformer, near the 230kV bus. a. Apply fault at the Carlisle 230kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
68	FLT68-3PH	3 phase fault on the Tolk 345kV (525549) to Tolk 230kV (525543)/ 13.2kV (525537) transformer, near the 230kV bus. a. Apply fault at the Tolk 230kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
69	FLT69-3PH	3 phase fault on the Tucu (525830) to Carlisle (526161) 230kV line, ckt1, near Tucu. a. Apply fault at the Tucu 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
70	FLT70-1PH	<i>Single phase fault and sequence like previous</i>

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Cont. No.	Contingency Name	Contingency Description
71	FLT71-3PH	3 phase fault on the Tuco (525830) to Swisher (525213) 230kV line, ckt1, near Tuco. a. Apply fault at the Tuco 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
72	FLT72-1PH	<i>Single phase fault and sequence like previous</i>
73	FLT73-3PH	3 phase fault on the Tuco (525830) to Tolk East (525524) 230kV line, ckt1, near Tuco. a. Apply fault at the Tuco 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
74	FLT74-1PH	<i>Single phase fault and sequence like previous</i>
75	FLT75-3PH	3 phase fault on the Farmer Electric Cooperative (FEC) Clovis Interchange (524808) to North Clovis (524777) 115kV line, near FEC Clovis. a. Apply fault at FEC Clovis 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
76	FLT76-1PH	<i>Single phase fault and sequence like previous</i>
77	FLT77-3PH	3 phase fault on the Farmer Electric Cooperative (FEC) Clovis Interchange (524808) to West Clovis (524784) 115kV line, near FEC Clovis. a. Apply fault at FEC Clovis 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
78	FLT78-1PH	<i>Single phase fault and sequence like previous</i>
79	FLT79-3PH	3 phase fault on the Oasis (524875) to Portales (524924) 115kV line, near Oasis. a. Apply fault at Oasis 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
80	FLT80-1PH	<i>Single phase fault and sequence like previous</i>
81	FLT81-3PH	3 phase fault on the Oasis (524875) 230kV to Oasis (524874) 115kV transformer, near Oasis 115kV. a. Apply fault at Oasis 115kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
82	FLT82-3PH (C3)	Prior outage of Tolk to Roosevelt #1 230 kV circuit with a 3-phase fault near Roosevelt on the Tolk to Roosevelt #2 230 kV circuit -- no reclosing. a. Prior outage of Roosevelt South (524911) to Tolk East (525524) 230kV line b. Apply 3-phase fault at Roosevelt North (524909) 230kV c. Run for 5 cycles d. Clear fault and trip line from Roosevelt North (524909) to Tolk West (525531) 230kV

4. Results and Observations

4.1 Stability Analysis Results

Table 4-1 summarizes the results. Figure 4-1 through Figure 4-6 show representative summer peak season plots for faults at the POI's of the study projects. Complete sets of plots for both summer and winter peak seasons for each fault and each project are included in Appendices A and B.

The following faults had tripping of study generator ASGI-2012-002 due to low voltage: FLT19, FLT20, FLT21, FLT22, FLT23, FLT24, FLT25, FLT27, FLT28, FLT29, FLT30, FLT68, FLT75, FLT76, FLT77, FLT78, FLT79, FLT81, and FLT82. With the Vestas V82 AGO (advanced grid option, aka LVRT, low voltage ride-through) enabled, generator ASGI-2012-002 did not trip off line due to low voltage for any of the faults. See Figure 4-5 for the generator plot with the LVTR enabled and Figure 4-2 without the option.

The following faults had tripping of study generator GEN-2012-015 due to low voltage: FLT19, FLT21, FLT23, FLT27, FLT29, FLT68, FLT79, FLT81, and FLT82. The faults were repeated with the Solaron PV Inverters' Extended Ride-Through Option (aka LVRT) values for the dynamic model. With the LVRT, GEN-2012-015 did not trip off line due to low voltage for any of the faults. See Figure 4-4 for the generator plot with the LVRT and Figure 4-1 without the option.

Even with the LVRT options, ASGI-2012-002 and GEN-2012-015 trip off-line due to high voltage following FLT82 (C3 outage of Tolk-Roosevelt 230 kV lines 1 and 2). There are significant high voltages throughout the Roosevelt area.

For FLT55 and 56 on the GEN-2012-038-POI (562309) to Border (515458) 345kV line, the system damping is poor in the summer case and the winter case is unstable. When this line trips, most of the power reroutes to the already heavily loaded Tolk-OKU-LES 345 kV line. Voltage drops severely at OKU, and the OKU DC system is unable to continue operation in the winter case.

The following system upgrades were tested to fix the problems with FLT55 and 56:

1. Transmission line option:
 - Tap the G12-38 – Border 345 kV line near Sweetwater.
 - Add a 2nd G12-38 – Sweetwater 345 kV line.
 - Add a new 345 kV line from Sweetwater to Gracemont.
2. Oklaunion SVC (Static Var Compensator) option:
 - Add capacitors to OKU 345 to increase base case voltage to 0.95
 - Add a +150/-50 Mvar SVC to OKU (copied from Tuco SVC)

The transmission line option resulted in good, stable response for FLT55 and 56 in summer and winter cases.

With the OKU SVC option, FLT55 was still unstable in the summer case. The SLNOS1 relay on the Tuco-OKU-345 kV line detected an out-of-step condition and tripped. A larger SVC was tested (+300/-100 Mvar), but the results were the same. An SVC at OKU will not fix the unstable FLT55 in the summer case.

Table 4-1. Summary of Stability Results

Cont. No.	Contingency Name	Contingency Description	Summer Peak Results	Winter Peak Results
1	FLT01-3PH	3 phase fault on the Jones (526337) to Lubbock_STH (526269) 230kV line ckt1, near Jones.	OK	OK
2	FLT02-1PH	Single phase fault and sequence like previous	OK	OK
3	FLT03-3PH	3 phase fault on the Jones (526337) to Lubbock_EST (526299) 230kV line, near Jones.	OK	OK
4	FLT04-1PH	Single phase fault and sequence like previous	OK	OK
5	FLT05-3PH	3 phase fault on the Jones (526338) to Grassland (526677) 230kV line, near Jones.	OK	OK
6	FLT06-1PH	Single phase fault and sequence like previous	OK	OK
7	FLT07-3PH	3 phase fault on the Lubbock_STH (526269) to Wolfforth (526525) 230kV line, near Lubbock_STH.	OK	OK
8	FLT08-1PH	Single phase fault and sequence like previous	OK	OK
9	FLT09-3PH	3 phase fault on the Wolfforth (526525) to Sundown (526435) 230kV line, near Wolfforth.	OK	OK
10	FLT10-1PH	Single phase fault and sequence like previous	OK	OK
11	FLT11-3PH	3 phase fault on the Lubbock_EST (526299) to LP-Wadswrth (522888) 230kV line, near Lubbock_EST.	OK	OK
12	FLT12-1PH	Single phase fault and sequence like previous	OK	OK
13	FLT13-3PH	3 phase fault on the Jones1 (526337) to Tuco_Int (525830) 230kV line, near Jones.	OK	OK
14	FLT14-1PH	Single phase fault and sequence like previous	OK	OK
15	FLT15-3PH	3 phase fault on the Grassland (526677) to Wolfforth (526525) 230kV line, near Grassland.	OK	OK
16	FLT16-1PH	Single phase fault and sequence like previous	OK	OK
17	FLT17-3PH	3 phase fault on the G12_001-TAP (562089) to Borden (526830) 230kV line, near G12_001-TAP.	OK	OK
18	FLT18-1PH	Single phase fault and sequence like previous	OK	OK
19	FLT19-3PH	3 phase fault on the Curry (524822) to Deaf Smith #20 (524669) 115kV line, near Curry.	* LVRT enabled	* LVRT enabled
20	FLT20-1PH	Single phase fault and sequence like previous	* LVRT enabled	* LVRT enabled
21	FLT21-3PH	3 phase fault on the Curry (524822) to Norris Tap (524764) 115kV line, near Curry.	* LVRT enabled	* LVRT enabled

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Cont. No.	Contingency Name	Contingency Description	Summer Peak Results	Winter Peak Results
22	FLT22-1PH	Single phase fault and sequence like previous	* LVRT enabled	* LVRT enabled
23	FLT23-3PH	3 phase fault on the Curry (524822) to FE-Clovis (524838) 115kV line, near Curry.	* LVRT enabled	* LVRT enabled
24	FLT24-1PH	Single phase fault and sequence like previous	* LVRT enabled	* LVRT enabled
25	FLT25-3PH	3 phase fault on the Tolk (525549) to GEN-2008-022 (577104) 345kV line, near Tolk.	* LVRT enabled	* LVRT enabled
26	FLT26-1PH	Single phase fault and sequence like previous	OK	OK
27	FLT27-3PH	3 phase fault on the Curry (524822) to Roosevelt (524908) 115kV line, near Curry.	* LVRT enabled	* LVRT enabled
28	FLT28-1PH	Single phase fault and sequence like previous	* LVRT enabled	* LVRT enabled
29	FLT29-3PH	3 phase fault on the Curry (524822) to Bailey County (525028) 115kV line, near Curry.	* LVRT enabled	* LVRT enabled
30	FLT30-1PH	Single phase fault and sequence like previous	* LVRT enabled	* LVRT enabled
31	FLT31-3PH	3 phase fault on the Mustang (527149) to Amocowasson (526784) 230kV line, near Mustang.	OK	OK
32	FLT32-1PH	Single phase fault and sequence like previous	OK	OK
33	FLT33-3PH	3 phase fault on the Mustang (527149) to Yoakum (526935) 230kV line, near Mustang.	OK	OK
34	FLT34-1PH	Single phase fault and sequence like previous	OK	OK
35	FLT35-3PH	3 phase fault on the Mustang (527149) to Seminole (527276) 230kV line, near Mustang.	OK	OK
36	FLT36-1PH	Single phase fault and sequence like previous	OK	OK
37	FLT37-3PH	3 phase fault on the Amocowasson (526784) to Yoakum (526935) 230kV line, near Amocowasson.	OK	OK
38	FLT38-1PH	Single phase fault and sequence like previous	OK	OK
39	FLT39-3PH	3 phase fault on the Yoakum (526935) to Tolk_West (525531) 230kV line, near Yoakum.	OK	OK
40	FLT40-1PH	Single phase fault and sequence like previous	OK	OK
41	FLT41-3PH	3 phase fault on the Yoakum (526935) to Amoco_SS (526460) 230kV line, near Yoakum.	OK	OK
42	FLT42-1PH	Single phase fault and sequence like previous	OK	OK
43	FLT43-3PH	3 phase fault on the Yoakum (526935) to Lea_Cnty (527849) 230kV line, near Yoakum.	OK	OK
44	FLT44-1PH	Single phase fault and sequence like previous	OK	OK
45	FLT45-3PH	3 phase fault on the Mustang (527146) to Denver_N (527130) 115kV line, near Mustang.	OK	OK
46	FLT46-1PH	Single phase fault and sequence like previous	OK	OK
47	FLT47-3PH	3 phase fault on the Mustang (527146) to Denver_S (527136) 115kV line, ckt2, near Mustang.	OK	OK
48	FLT48-1PH	Single phase fault and sequence like previous	OK	OK

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Cont. No.	Contingency Name	Contingency Description	Summer Peak Results	Winter Peak Results
49	FLT49-3PH	3 phase fault on the Mustang (527146) to Seagraves (527202) 115kV line, near Mustang.	OK	OK
50	FLT50-1PH	Single phase fault and sequence like previous	OK	OK
51	FLT51-3PH	3 phase fault on the Grassland (526676) to Lynn County (526656) 115kV line, ckt1, near Grassland.	OK	OK
52	FLT52-1PH	Single phase fault and sequence like previous	OK	OK
53	FLT53-3PH	3 phase fault on the Tuco_Int (525832) Oklaunion (511456) 345kV line, near Tuco_Int.	OK	OK
54	FLT54-1PH	Single phase fault and sequence like previous	OK	OK
55	FLT55-3PH	3 phase fault on the GEN-2012-038-POI (562309) to Border (515458) 345kV line, near GEN-2012-038.	Poor damping	Unstable
56	FLT56-1PH	Single phase fault and sequence like previous	Poor damping	Unstable
57	FLT57-3PH	3 phase fault on the Tuco_Int (525832) to GEN-2012-038-POI (562309) 345kV line, near Tuco.	OK	OK
58	FLT58-1PH	Single phase fault and sequence like previous	OK	OK
59	FLT59-3PH	3 phase fault on the Grassland 230kV (526677) to Grassland 115kV (526676) transformer, near the 230kV bus.	OK	OK
60	FLT60-3PH	3 phase fault on the Borden 230kV (526830) to CR-Vealmoor 138kV (522896) transformer, near the 230kV bus.	OK	OK
61	FLT61-3PH	3 phase fault on the Mustang 230kV (527149) to Mustang 115kV (527146)/ 13.2kV (527143) transformer, near the 230kV bus.	OK	OK
62	FLT62-3PH	3 phase fault on the Yoakum 230kV (526935) to Yoakum 115kV (526934) transformer, ckt2, near the 230kV bus.	OK	OK
63	FLT63-3PH	3 phase fault on the Seminole 230kV (527276) to Seminole 115kV (527275) transformer, ckt2, near the 230kV bus.	OK	OK
64	FLT64-3PH	3 phase fault on the Tuco 345kV (525832) to Tuco 230kV (525830)/ 13.2kV (525824) transformer, near the 345kV bus.	OK	OK
65	FLT65-3PH	3 phase fault on the Tuco 230kV (525830) to Tuco 115kV (525828)/ 13.2kV (525819) transformer, near the 230kV bus.	OK	OK
66	FLT66-3PH	3 phase fault on the Swisher 230kV (525213) to Swisher 115kV (525212)/ 13.2kV (525211) transformer, near the 230kV bus.	OK	OK
67	FLT67-3PH	3 phase fault on the Carlisle 230kV (526161) to Carlisle 115kV (526160)/ 13.2kV (526167) transformer, near the 230kV bus.	OK	OK
68	FLT68-3PH	3 phase fault on the Tolk 345kV (525549) to Tolk 230kV (525543)/ 13.2kV (525537) transformer, near the 230kV bus.	* LVRT enabled	* LVRT enabled
69	FLT69-3PH	3 phase fault on the Tuco (525830) to Carlisle (526161) 230kV line, ckt1, near Tuco.	OK	OK
70	FLT70-1PH	Single phase fault and sequence like previous	OK	OK
71	FLT71-3PH	3 phase fault on the Tuco (525830) to Swisher (525213) 230kV line, ckt1, near Tuco.	OK	OK
72	FLT72-1PH	Single phase fault and sequence like previous	OK	OK
73	FLT73-3PH	3 phase fault on the Tuco (525830) to Tolk East (525524) 230kV line, ckt1, near Tuco.	OK	OK
74	FLT74-1PH	Single phase fault and sequence like previous	OK	OK

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Cont. No.	Contingency Name	Contingency Description	Summer Peak Results	Winter Peak Results
75	FLT75-3PH	3 phase fault on the Farmer Electric Cooperative (FEC) Clovis Interchange (524808) to North Clovis (524777) 115kV line, near FEC Clovis.	* LVRT enabled	* LVRT enabled
76	FLT76-1PH	Single phase fault and sequence like previous	* LVRT enabled	* LVRT enabled
77	FLT77-3PH	3 phase fault on the Farmer Electric Cooperative (FEC) Clovis Interchange (524808) to West Clovis (524784) 115kV line, near FEC Clovis.	* LVRT enabled	* LVRT enabled
78	FLT78-1PH	Single phase fault and sequence like previous	* LVRT enabled	* LVRT enabled
79	FLT79-3PH	3 phase fault on the Oasis (524875) to Portales (524924) 115kV line, near Oasis.	* LVRT enabled	* LVRT enabled
80	FLT80-1PH	Single phase fault and sequence like previous	OK	OK
81	FLT81-3PH	3 phase fault on the Oasis (524875) 230kV to Oasis (524874) 115kV transformer, near Oasis 115kV.	* LVRT enabled	* LVRT enabled
82	FLT82-3PH	Prior outage of Tolk to Roosevelt #1 230 kV circuit with a 3-phase fault near Roosevelt on the Tolk to Roosevelt #2 230 kV circuit -- no reclosing.	A12-02 G12-15 OV trip	A12-02 G12-15 OV trip

*LVRT enabled: Faults were OK when the Vestas AGO (LVRT) Option is enabled at ASGI-2012-002 and the Solaron PV Inverters Extended Ride-Through Option is enabled at GEN-2012-015. Otherwise, these two plants trip for these faults. The LVTR Option must be purchased for generators ASGI-2012-002 and GEN-2012-015 to meet FERC ride-through requirements.

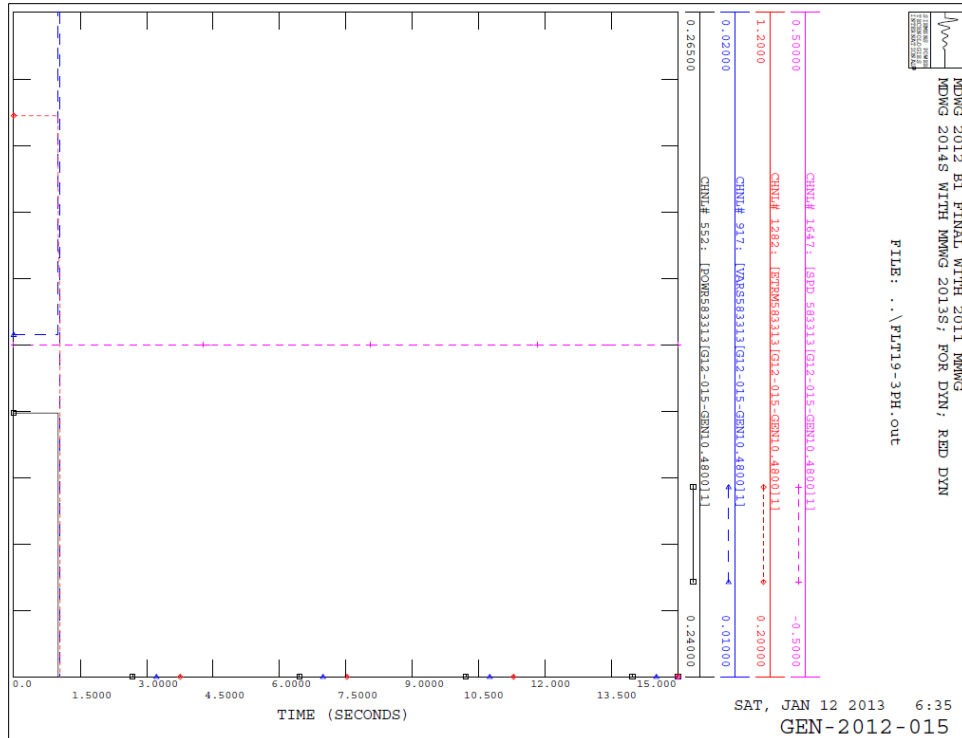


Figure 4-1. GEN-2012-015 Plot for Fault 19 – 3-Phase Fault on the Curry (524822) to Deaf Smith (524669) 115 kV line, near Curry

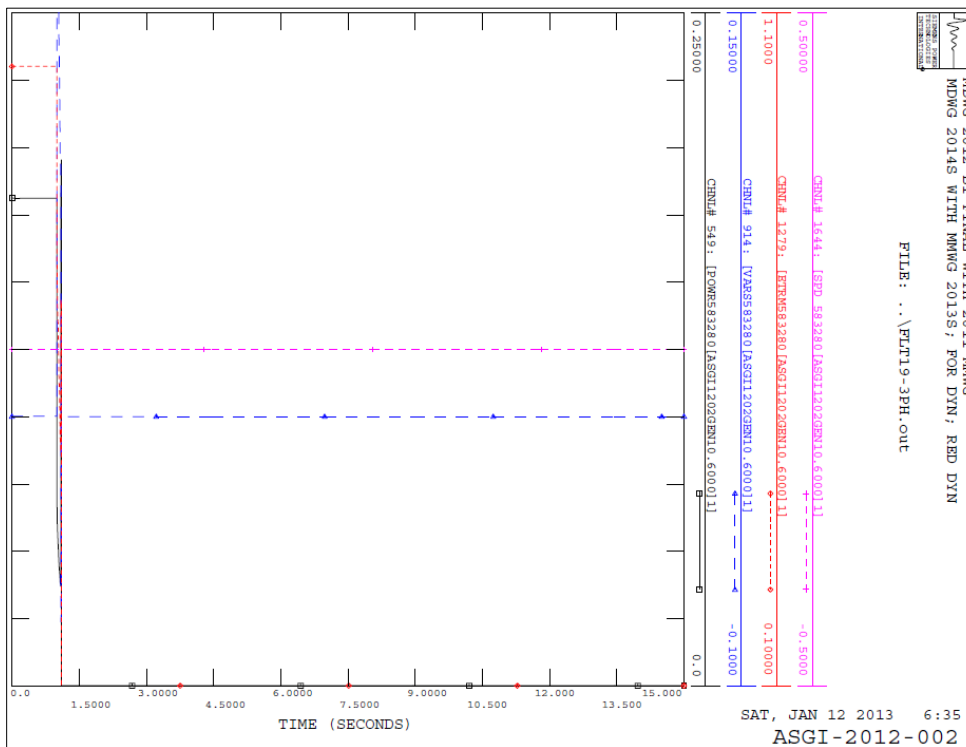


Figure 4-2. ASGI-2012-002 Plot for Fault 19 – 3-Phase Fault on the Curry (524822) to Deaf Smith (524669) 115 kV line, near Curry

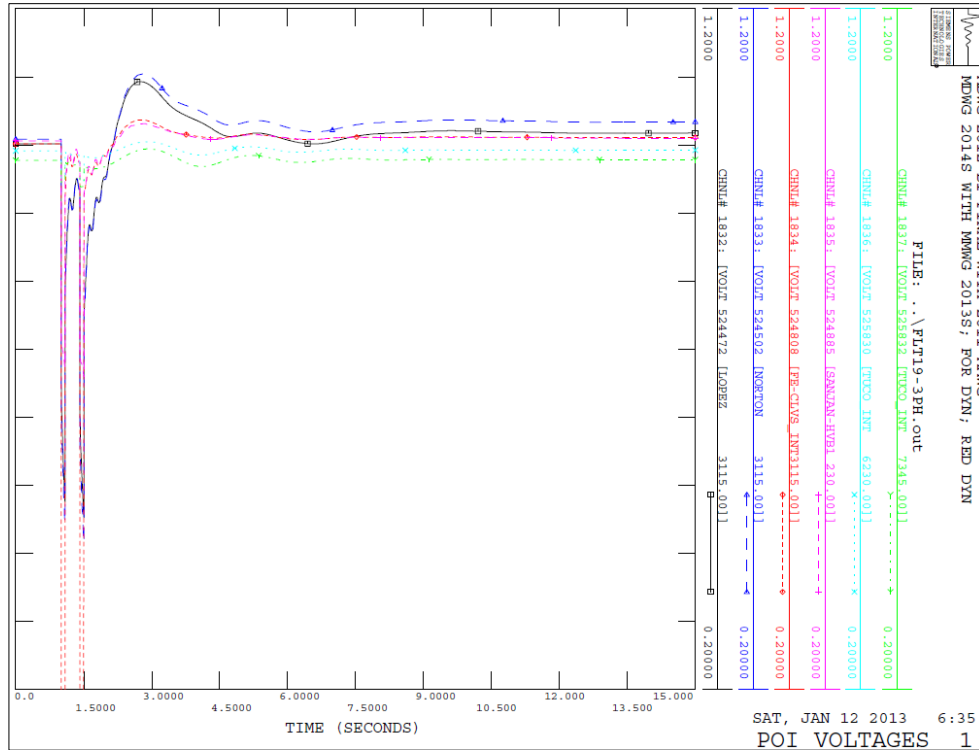


Figure 4-3. POI Voltages for Fault 19 – 3-Phase Fault on the Curry (524822) to Deaf Smith (524669) 115 kV line, near Curry

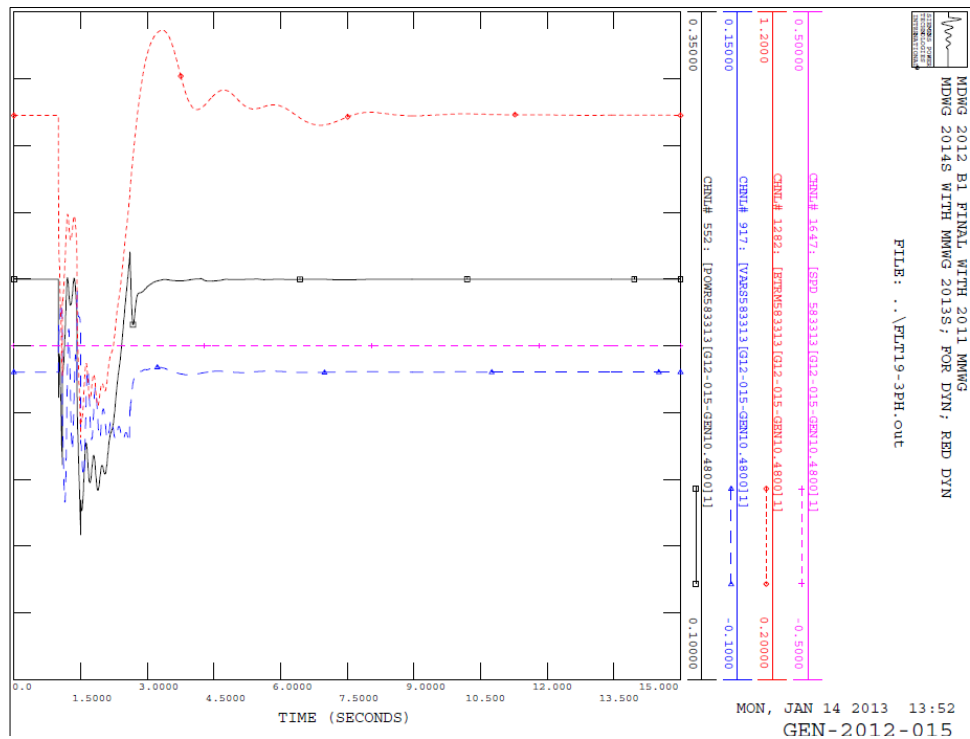


Figure 4-4. GEN-2012-015 with Extended Ride-Through Option Plot for Fault 19 – 3-Phase Fault on the Curry (524822) to Deaf Smith (524669) 115 kV line, near Curry

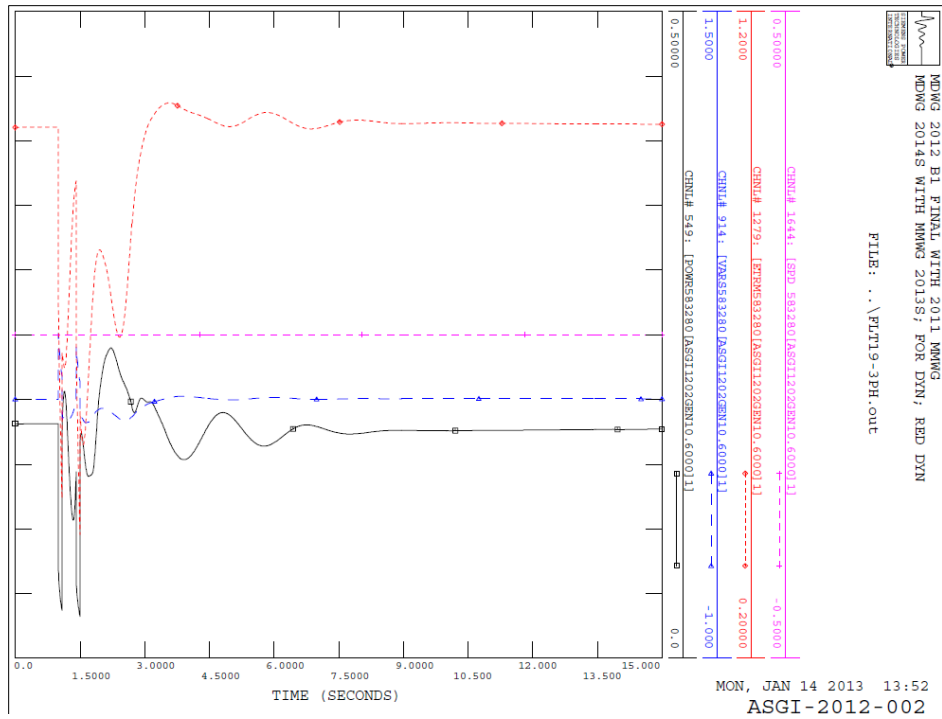


Figure 4-5. ASGI-2012-002 with LVTR enabled Plot for Fault 19 – 3-Phase Fault on the Curry (524822) to Deaf Smith (524669) 115 kV line, near Curry

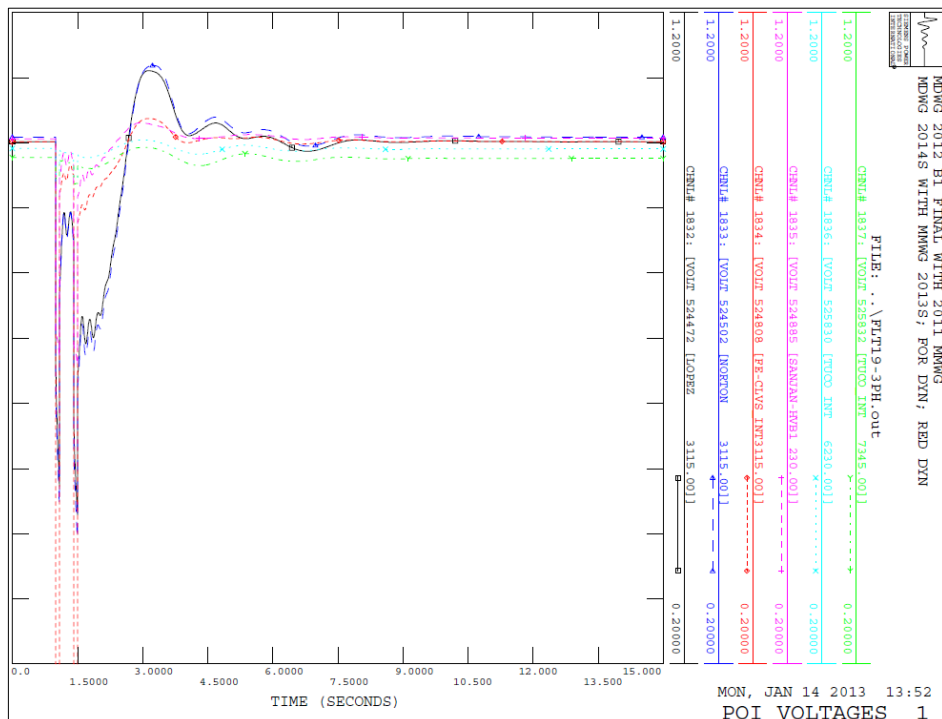


Figure 4-6. POI Voltages for Fault 19 – 3-Phase Fault on the Curry (524822) to Deaf Smith (524669) 115 kV line, near Curry with fault ride through enabled

4.2 Power Factor Requirements

All stability faults were tested as power flow contingencies to determine the power factor requirements for the wind and solar farm study projects to maintain scheduled voltage at their respective points of interconnection (POI). The voltage schedules are set equal to the voltages at the POIs before the projects are added, with a minimum of 1.0 per unit. Fictitious reactive power sources were added to the study projects to maintain scheduled voltage during all studied contingencies. The MW and Mvar injections from the study projects at the POIs were recorded and the resulting power factors were calculated for all contingencies for summer peak and winter peak cases. The most leading and most lagging power factors determine the minimum power factor range capability that the study projects must install before commercial operation.

If more than one study project shared a single POI, the projects were grouped together and a common power factor requirement was determined for those study projects. This ensures that none of the study projects is required to provide more or less than its fair share of the reactive power requirements at a single POI. *Prior-queued* projects at the same POI, if any, were not grouped with the study projects because their interconnection requirements were determined in previous studies. The voltage schedules of prior-queued and study projects at the same POI were coordinated.

Per FERC and SPP Tariff requirements, if the power factor needed to maintain scheduled voltage is less than 0.95 lagging, then the requirement is limited to 0.95 lagging. The lower limit for leading power factor requirement is also 0.95. If a project never operated leading under any contingency, then the leading requirement is set to 1.0. The same applies on the lagging side.

The final power factor requirements are shown in Table 4-2 below. These are only the minimum power factor ranges based on steady-state analysis.

The full details for each contingency in summer and winter peak cases are given in Appendix C.

Table 4-2. Power Factor Requirements ^a

Request	Size (MW)	Generator Model	Point of Interconnection	Final PF Requirement	
				Lagging ^b	Leading ^c
ASGI-2012-002	18	Vestas V82	Clovis 115kV (524808)	0.95 ^d	0.95 ^d
GEN-2012-015	25	AE Solaron 500	Norton 115kV (524502)	1.0	0.998
GEN-2012-020	478	GE 1.68MW	Tuco 230kV (525830)	0.95 ^d	0.999

Notes:

- a. For each plant, the table shows the minimum required power factor capability at the point of interconnection that must be designed and installed with the plant. The power factor capability at the POI includes the net effect of the generators, transformers, line impedances, and any reactive compensation devices installed on the plant side of the meter. Installing more capability than the minimum requirement is acceptable.
- b. Lagging is when the generating plant is supplying reactive power to the transmission grid. In this situation, the alternating current sinusoid “lags” behind the alternating voltage sinusoid, meaning that the current peaks shortly after the voltage.
- c. Leading is when the generating plant is taking reactive power from the transmission grid. In this situation, the alternating current sinusoid “leads” the alternating voltage sinusoid, meaning that the current peaks shortly before the voltage.
- d. Electrical need is lower, but PF requirement limited to 0.95 by FERC order.

5. Conclusions

The DISIS-2012-002 Group 6 Definitive Impact Study evaluated the impacts of interconnecting the projects shown below.

Table 5-1. Interconnection Requests Evaluated in this Study

Request	Size	Generator Type	Point of Interconnection	Gen Buses
ASGI-2012-002	18	Vestas V82	Clovis 115kV (524808)	583280
GEN-2012-015	25	AE Solaron 500KW Inverter	Norton 115kV (524502)	583313
GEN-2012-020	478	GE 1.68MW	Tuco 230kV (525830)	583343 583346
GEN-2012-034	7 MW increase	GENROU	Mustang 230kV (527151)	527164
GEN-2012-035	7 MW increase	GENROU	Mustang 230kV (527151)	527165
GEN-2012-036	7 MW increase	GENROU	Mustang 230kV (527151)	583080
GEN-2012-037	196 Summer 203 Winter	GENROU	Tuco 345kV (525832)	583453
GEN-2012-038	196 Summer 203 Winter	GENROU	Tuco-Border 345kV Tap (562309)	583463

The stability results showed that Gen-2012-015 (Solaron PV inverters) and ASGI-2012-002 (Vestas V82 wind turbines) need to have LVRT (Low Voltage Ride Through) Options purchased for the generators. Without the LVRT the Solaron and Vestas generators tripped due to low voltage for several faults both summer and winter.

For the C3 fault with prior outage of Tolk-Roosevelt #1 230 kV line and a fault on the Tolk-Roosevelt #2 line, ASGI-2012-002 and GEN-2012-015 tripped off line due to **high** voltage even with the LVRT options enabled. This fault results in high voltages throughout the Roosevelt area.

For a fault on the GEN-2012-038-POI to Border 345kV line, the system damping is poor in the summer case, and the winter case is unstable. This fault results in very high flow on the Tolk-OKU-LES 345 kV line and low voltage at OKU 345. To fix this problem, a new 345 kV transmission line is needed from GEN-2012-038 to Sweetwater to Gracemont.

Final power factor and capacitor requirements for the Group 6 projects are listed in Table 4-2.

Any change in system or plant models or assumptions could change these results.

Appendix A – Summer Peak Plots

Appendix B – Winter Peak Plots

Appendix C – Power Factor Details

Appendix D – Project Model Data

Appendix E – SPP Transmission One-line Diagrams

M: Group 7 Dynamic Stability Analysis Report

See POWER-tek report on next page.

Southwestern Power Pool Inc. (SPP)



Definitive Impact Study DISIS-2012-002 (Group_07)



Draft Report Submitted to
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1. Executive Summary

This report presents the results of impact study comprising of power factor and stability analyses of the proposed interconnection projects under DISIS-2012-002_Group_07 (the Project) as described in the following Table.

Table 1.1: Interconnection Request

Request	Size (MW)	Wind Turbine Model	Point of Interconnection
GEN-2012-028	74.25	GE 1.7MW	Gotebo 69kV (520925)
GEN-2012-029	100.3	GE 1.7MW	Tap on Hobart Jct – Clinton AFB Tap 138kV (562278)

Power factor analysis and transient stability simulations were performed for the Projects in service at their full output. SPP provided two base cases for summer and winter conditions respectively, each comprising of a power flow and corresponding dynamics database. The previous queued request projects are already modeled in the base cases.

The power factor analysis indicates that both interconnection requests GEN-2012-028 and GEN-2012-029 are required to maintain a 95% lagging (supplying vars) and 95% leading (absorbing vars) power factor at their respective point of interconnection (Gotebo 69kV Bus #520925 for GEN-2012-028) and (Clinton AFB Tap 138kV Bus #562278).

There are no impacts on the stability performance of the SPP system for the contingencies simulated on the supplied base cases. The study Project stayed on-line and stable for all simulated faults. The Project stability simulations with Sixty Five (65) specified test disturbances did not show instability problems in the SPP system and oscillations were damped out.

Request	Size (MW)	Wind Turbine Model	Point of Interconnection
GEN-2011-049	250	Siemens 2.3	Border 345kV (515458)

ATC (Available Transfer Capability) studies were not performed as part of this study. These studies will be required at the time transmission service is actually requested. Additional transmission upgrades may be required based on that analysis.

Study assumptions in general have been based on the specific information and data provided by SPP. The accuracy of the conclusions contained within this study is dependent on the assumptions made with respect to other generation additions and transmission improvements planned by other entities. Changes in the assumptions of the timing of other generation additions or transmission improvements may affect this study’s conclusions.

2.2. Objectives

The objectives of the study are to conduct power factor analysis and to determine the impact on system stability of interconnecting the proposed wind farms to SPP’s transmission system.

2.3. Models and Simulations Tools Used

Version 32 of the Siemens, PSS/E power system simulation program was used in this study.

SPP provided its latest stability database cases for both summer and winter peak seasons. The Project’s PSS/E model had been developed prior to this study and was included in the power flow case and the dynamics database. Machine, interconnection and dynamic model data for the Project plant is provided in Appendix C.

Power flow single line diagram of the projects in summer peak conditions are shown in Figure 1.1 and Figure 1.2. The figures show that wind farm model includes representation of the radial transmission line, the substation transformer from transmission voltage to 69kV and 138 kV respectively. The remainder of each wind farm is represented by lumped equivalents including a generator, a step-up transformer, and collector system impedance.

No special modeling is required of line relays in these cases, except for the special modeling related to the wind-turbine tripping.

All generators in Areas 520, 524, 525, 526, 531, 534, and 536 were monitored.

3. Power Factor Analysis

3.1. Methodology

Power factor analysis was conducted for the Project using the following methodology:

1. Replace the wind farm by a generator at the high side bus 345 kV, 138 kV, or 69 kV bus, as applicable, with the MW of the wind farms at that point of interconnection and with no var capability.
2. Turn off the wind farm as modeled (as well as previous queued projects at the same point of interconnection).
3. Model A var generator at the Project’s high voltage side, 345 kV, 138 kV, or 69kV bus, as applicable. The var generator is set to hold a voltage schedule at the POI consistent with the voltage schedule in the provided power flow cases for summer and winter or 1.0 pu voltage, whichever is higher.
4. Perform the steady state contingency analysis to determine the power factor necessary at the POI for each contingency.
5. If the required power factor at the POI is beyond the capability of the studied wind turbines to meet (at the POI) capacitor banks may be considered for the stability analysis. The preference is to locate the capacitance banks on the 34.5 kV customer side. Factors to sizing capacitor banks include:
 - 5.1. The ability of the wind farm to meet FERC Order 661A (low voltage ride through) with and without capacitor banks.
 - 5.2. The ability of the wind farm to meet FERC Order 661A (wind farm recovery to pre-fault voltage).
 - 5.3. If wind farms trips on high voltage, power factor lower than unity may be required.

3.2. Analysis

Analysis was performed for proposed Project with all prior queued projects in service. A var generator was modeled at the point of interconnection and was set to hold a voltage schedule at the POI consistent with the voltage schedule in the provided power flow cases. These voltages for this Project are summarized in Table 2.2. All upgrades and instructions were made in the base cases. No other changes were made in the base cases provided, other than the addition of the var generators. Contingency analysis was run for provided list of contingencies.

Table 2.2: POI voltages for the summer and winter peak cases

Request	Point of Interconnection	Size (MW)	Base Case Voltage (p.u.)	
			Summer Peak	Winter Peak
GEN-2012-028	Bus # 520925 (Gotebo 69 kV)	74.25	1.014	1.026
GEN-2012-029	Bus # 562278 (Tap on Hobart Jct – Clinton AFB Tap 138 kV)	100.3	1.004	1.006

POI: (562038) - 2011-040TP 138kV line

The var generator either supplies or absorbs reactive power at different contingencies as summarized in Table 2.3. The highest values obtained are highlighted and as follows:

1. For the summer case, (case of GEN-2012-028)
 - The maximum var generator supply is 14.8 MVARs for the outage of 562278 [G12-029-TAP 138.00] to 511463 [HOB-JCT4 138.0] CKT 1.
 - This requires maximum power factor of 0.981 lagging.
 - The minimum var requirement is for outage of for 520925 [GOTEBO 2 69.0] to 520866 [CORDELL2 69.0] CKT 1 requiring 6.5 MVAR at 0.996 power factor lagging.

2. For the summer case, (case of GEN-2012-029)
 - The maximum var generator supply is 17.8 MVARs for the outage of 511458 [ELKCTY-4 138.0] to 511446 [CL-AFTP4 138.0] CKT 1.
 - This requires maximum power factor of 0.985 lagging.
 - The minimum var requirement is for outage of for 562278 [G12-029-TAP 138.0] to 511446 [CL-AFTP4 138.0] CKT 1 requiring 3.0 MVAR at 1.0 power factor lagging.

Table 2.3: Var Generator Output in Summer Peak Case for GEN-2012-028 and GEN-2012-029 Summer Case Power Factor Study:

		Rated MW of Wind Farm OR at POI (MW)			GEN-2012-028		74.8			GEN-2012-029		100.3
		Rated MVAR (lagging) of Wind Farm			GEN-2012-028		36.212			GEN-2012-029		48.557
Cont. Name	From Bus (# & Name)		To Bus (# & Name)		ID	MVAR at POI	% of Max MVAR	P.F at POI	MVAR at POI	% of Max MVAR	P.F at POI	
	Base Case MVAR Flow				N/A	11.100	30.653	0.989	9.100	18.741	0.996	
FLT01-3PH	562278	G12-029-TAP 138.00	511446	CL-AFTP4 138.0	CKT 1	11.900	32.862	0.988	3.000	6.178	1.000	
FLT03-3PH	562278	G12-029-TAP 138.00	511463	HOB-JCT4 138.0	CKT 1	14.800	870	0.981	5.500	11.327	0.998	
FLT05-3PH	520925	GOTEBO 2 69.000	520866	CORDELL2 69.00	CKT 1	6.500	17.950	0.996	9.800	20.182	0.995	
FLT07-3PH	520982	LONEWLF2 69.000	520925	GOTEBO 2 69.00	CKT 1	6.700	18.502	0.996	9.800	20.182	0.995	
FLT09-3PH	521003	MTNVIEW2 69.000	520925	GOTEBO 2 69.00	CKT 1	9.500	26.234	0.992	11.100	22.860	0.994	
FLT11-3PH	511458	ELKCTY-4 138.00	511446	CL-AFTP4 138.0	CKT 1	12.000	33.138	0.987	17.800	36.658	0.985	
FLT13-3PH	511463	HOB-JCT4 138.00	511445	CARNEG-4 138.0	CKT 1	12.400	34.243	0.987	17.100	35.216	0.986	
FLT15-3PH	521024	PARADSE4 138.00	521105	CACHE4 138.0	CKT 1	12.500	34.519	0.986	9.700	19.977	0.995	

Rated MW of Wind Farm OR at POI (MW)						GEN-2012-028		74.8	GEN-2012-029		100.3		
Rated MVAR (lagging) of Wind Farm						GEN-2012-028		36.212	GEN-2012-029		48.557		
FLT17-3PH	521051	SNYDER 2	69.000	521009	NAVAJO 2	69.00	CKT 1	12.600	34.795	0.986	8.800	18.123	0.996
FLT19-3PH	521051	SNYDER 2	69.000	521070	TIPTONJ2	69.00	CKT 1	11.200	30.929	0.989	7.400	15.240	0.997
FLT21-3PH	511435	SNYDER-4	138.00	511440	ALTUSJT4	138.0	CKT 1	11.200	30.929	0.989	3.100	6.384	1.000
FLT23-3PH	511435	SNYDER-4	138.00	511500	CACHE4	138.0	CKT 1	10.500	28.996	0.990	5.300	10.915	0.999
FLT25-3PH	511475	SNYDER-2	69.000	511444	ROSVTAP2	69.00	CKT 1	10.900	30.101	0.990	9.400	19.359	0.996
FLT27-3PH	511475	SNYDER-2	69.000	511460	FREDJC-2	69.00	CKT 1	11.400	31.481	0.989	9.200	18.947	0.996
FLT29-3PH	511475	SNYDER-2	69.000	511462	HEADRIK2	69.00	CKT 1	11.100	30.653	0.989	3.800	7.826	0.999
FLT31-3PH	511463	HOB-JCT4	138.00	529302	OMALTUS4	138.00	CKT 1	14.300	39.490	0.982	10.100	20.800	0.995
FLT33-3PH	520814	ANADARK4	138.00	515802	GRACMNT4	138.0	CKT 1	11.400	31.481	0.989	11.400	23.478	0.994
FLT35-3PH	521052	SNYDER 4	138.00	511435	SNYDER-4	138.00	CKT 1	10.900	30.101	0.990	9.500	19.565	0.996
FLT37-3PH	511458	ELKCTY-4	138.00	521116	RHWIND4	138.0	CKT 1	11.100	30.653	0.989	8.100	16.681	0.997
FLT39-3PH	520814	ANADARK4	138.00	511477	S.W.S.-4	138.0	CKT 1	11.000	30.377	0.989	8.400	17.299	0.997
FLT41-3PH	511477	S.W.S.-4	138.00	511421	VERDEN 4	138.0	CKT 1	11.100	30.653	0.989	9.900	20.388	0.995
FLT43-3PH	511477	S.W.S.-4	138.00	511486	ELGINJT4	138.0	CKT 1	11.300	31.205	0.989	10.800	22.242	0.994
FLT45-3PH	511468	L.E.S.-7	345.00	515800	GRACMNT7	345.0	CKT 1	11.300	31.205	0.989	9.300	19.153	0.996
FLT47-3PH	515802	GRACMNT4	138.00	521089	WASHITA4	138.0	CKT 1	11.100	30.653	0.989	14.500	29.862	0.990
FLT49-3PH	521089	WASHITA4	138.00	521017	ONEY 4	138.0	CKT 1	11.700	32.310	0.988	10.300	21.212	0.995
FLT51-3PH	520846	CARTERJ2	69.000	520978	LKCREEK2	69.00	CKT 1	13.600	37.557	0.984	14.000	28.832	0.990
FLT53-3PH	520978	LKCREEK2	69.000	520927	GRANITE2	69.00	CKT 1	6.800	18.778	0.996	12.600	25.949	0.992
FLT55-3PH	511458	ELKCTY-4	138.00	511511	FALCNRD4	138.0	CKT 1	11.300	31.205	0.989	11.100	22.860	0.994
FLT57-3PH	521089	WASHITA4	138.00	511477	S.W.S.-4	138.0	CKT 1	13.500	37.280	0.984	10.000	20.594	0.995
FLT59-3PH	521052	SNYDER 4	138.00	521051	SNYDER 2	69.00	CKT 1	11.500	31.757	0.988	12.700	26.155	0.992
FLT60-3PH	511435	SNYDER-4	138.00	511475	SNYDER-2	69.00	TF-1	11.200	30.929	0.989	9.100	18.741	0.996
FLT61-3PH	520814	ANADARK4	138.00	520810	ANADARK2	69.00	TF-1	10.800	29.824	0.990	9.700	19.977	0.995
FLT62-3PH	511467	L.E.S.-4	138.00	511468	L.E.S.-7	345.0	TF-2	11.200	30.929	0.989	7.900	16.270	0.997
FLT63-3PH	511458	ELKCTY-4	138.00	511490	ELKCITY6	230.0	TF-1	8.000	22.092	0.994	10.500	21.624	0.995
FLT65-3PH	511463	HOB-JCT4	138.00	511464	HOB-JCT2	69.00	TF-1	11.800	32.586	0.988	8.600	17.711	0.996
FLT66-3PH	520814	ANADARK4	138.00	521031	POCASET4	138.0	CKT 1	11.200	30.929	0.989	8.600	17.711	0.996

For the winter case, (case of GEN-2012-028)

- The maximum var generator supply is 15.5 MVAR for the outage of 562278 [G12-029-TAP 138.0] to 511463 [HOB-JCT4 138.0] CKT-1.
- This requires maximum power factor of 0.979 lagging.
- The minimum var supply is for outage of for 520982 [LONEwlf2 69.0] to 520925 [gotebo2 69.0] CKT 1 requiring -4.2 MVARs at 0.998 power factor lagging.

For the winter case, (case of GEN-2012-029)

- The maximum var generator supply is 21.7 MVAR for the outage of 521089 [WASHITA4 138.0] to 521017 [ONEY 4 138.0] CKT-1.
- This requires maximum power factor of 0.977 lagging.
- The minimum var supply is for outage of for 562278 [G12-029-TAP 138.0] to 511463 [HOB-JCT4 138.0] CKT-1 requiring -2.2 MVARs at 1.0 power factor lagging.

Table 2.4: Var Generator Output in Winter Peak Case for GEN-2012-028 and GEN-2012-029

Winter Case Power Factor Study

		Rated MW of Wind Farm OR at POI (MW)		GEN-2012-028		74.8		GEN-2012-029		100.3	
		Rated MVAR (lagging) of Wind Farm		GEN-2012-028		36.212		GEN-2012-029		48.557	
Cont. Name	From Bus (# & Name)	To Bus (# & Name)	ID	MVAR at POI	% of Max MVAR	P.F at POI	MVAR at POI	% of Max MVAR	P.F at POI		
Base Case MVAR Flow			N/A	9.900	27.339	0.991	11.100	22.860	0.994		
FLT01-3PH	562278	G12-029-TAP 138.00	511446	CL-AFTP4 138.0	CKT 1	11.600	32.034	0.988	14.300	29.450	0.990
FLT03-3PH	562278	G12-029-TAP 138.00	511463	HOB-JCT4 138.0	CKT 1	15.500	42.803	0.979	2.200	4.531	1.000
FLT05-3PH	520925	GOTEBO 2 69.000	520866	CORDELL2 69.00	CKT 1	7.200	19.883	0.995	11.600	23.889	0.993
FLT07-3PH	520982	LONEWLF2 69.000	520925	GOTEBO 2 69.00	CKT 1	4.200	11.598	0.998	11.500	23.684	0.993
FLT09-3PH	521003	MTNVIEW2 69.000	520925	GOTEBO 2 69.00	CKT 1	7.600	20.988	0.995	14.200	29.244	0.990
FLT11-3PH	511458	ELKCTY-4 138.00	511446	CL-AFTP4 138.0	CKT 1	11.700	32.310	0.988	13.700	28.214	0.991
FLT13-3PH	511463	HOB-JCT4 138.00	511445	CARNEG-4 138.0	CKT 1	12.900	35.624	0.985	14.400	29.656	0.990
FLT15-3PH	521024	PARADSE4 138.00	521105	CACHE4 138.0	CKT 1	10.500	28.996	0.990	16.100	33.157	0.987
FLT17-3PH	521051	SNYDER 2 69.000	521009	NAVAJO 2 69.00	CKT 1	10.400	28.720	0.990	11.100	22.860	0.994
FLT19-3PH	521051	SNYDER 2 69.000	521070	TIPTONJ2 69.00	CKT 1	10.000	27.615	0.991	11.000	22.654	0.994
FLT21-3PH	511435	SNYDER-4 138.00	511440	ALTUSJT4 138.0	CKT 1	10.400	28.720	0.990	7.300	15.034	0.997
FLT23-3PH	511435	SNYDER-4 138.00	511500	CACHE4 138.0	CKT 1	10.900	30.101	0.990	11.300	23.272	0.994

Rated MW of Wind Farm OR at POI (MW)						GEN-2012-028		74.8	GEN-2012-029		100.3		
Rated MVAR (lagging) of Wind Farm						GEN-2012-028		36.212	GEN-2012-029		48.557		
FLT25-3PH	511475	SNYDER-2	69.000	511444	ROSVTP2	69.00	CKT 1	10.100	27.891	0.991	15.200	31.303	0.989
FLT27-3PH	511475	SNYDER-2	69.000	511460	FREDJC-2	69.00	CKT 1	9.900	27.339	0.991	11.400	23.478	0.994
FLT29-3PH	511475	SNYDER-2	69.000	511462	HEADRIK2	69.00	CKT 1	9.900	27.339	0.991	10.900	22.448	0.994
FLT31-3PH	511463	HOB-JCT4	138.00	529302	OMALTUS4	138.00	CKT 1	12.900	35.624	0.985	3.600	7.414	0.999
FLT33-3PH	520814	ANADARK4	138.00	515802	GRACMNT4	138.0	CKT 1	10.200	28.167	0.991	12.100	24.919	0.993
FLT35-3PH	521052	SNYDER 4	138.00	511435	SNYDER-4	138.00	CKT 1	10.000	27.615	0.991	14.000	28.832	0.990
FLT37-3PH	511458	ELKCTY-4	138.00	521116	RHWIND4	138.0	CKT 1	9.900	27.339	0.991	11.500	23.684	0.993
FLT39-3PH	520814	ANADARK4	138.00	511477	S.W.S.-4	138.0	CKT 1	9.900	27.339	0.991	10.600	21.830	0.994
FLT41-3PH	511477	S.W.S.-4	138.00	511421	VERDEN 4	138.0	CKT 1	9.900	27.339	0.991	10.600	21.830	0.994
FLT43-3PH	511477	S.W.S.-4	138.00	511486	ELGINJT4	138.0	CKT 1	9.900	27.339	0.991	11.400	23.478	0.994
FLT45-3PH	511468	L.E.S.-7	345.00	515800	GRACMNT7	345.0	CKT 1	10.000	27.615	0.991	13.000	26.773	0.992
FLT47-3PH	515802	GRACMNT4	138.00	521089	WASHITA4	138.0	CKT 1	9.900	27.339	0.991	11.400	23.478	0.994
FLT49-3PH	521089	WASHITA4	138.00	521017	ONEY 4	138.0	CKT 1	11.500	31.757	0.988	21.700	44.690	0.977
FLT51-3PH	520846	CARTERJ2	69.000	520978	LKCREEK2	69.00	CKT 1	7.400	20.435	0.995	15.100	31.097	0.989
FLT53-3PH	520978	LKCREEK2	69.000	520927	GRANITE2	69.00	CKT 1	10.600	29.272	0.990	15.000	30.892	0.989
FLT55-3PH	511458	ELKCTY-4	138.00	511511	FALCNRD4	138.0	CKT 1	10.000	27.615	0.991	13.100	26.979	0.992
FLT57-3PH	521089	WASHITA4	138.00	511477	S.W.S.-4	138.0	CKT 1	11.700	32.310	0.988	13.300	27.390	0.991
FLT59-3PH	521052	SNYDER 4	138.00	521051	SNYDER 2	69.00	CKT 1	9.900	27.339	0.991	12.700	26.155	0.992
FLT60-3PH	511435	SNYDER-4	138.00	511475	SNYDER-2	69.00	TF-1	10.100	27.891	0.991	13.900	28.626	0.991
FLT61-3PH	520814	ANADARK4	138.00	520810	ANADARK2	69.00	TF-1	10.100	27.891	0.991	11.100	22.860	0.994
FLT62-3PH	511467	L.E.S.-4	138.00	511468	L.E.S.-7	345.0	TF-2	10.000	27.615	0.991	11.800	24.301	0.993
FLT63-3PH	511458	ELKCTY-4	138.00	511490	ELKCITY6	230.0	TF-1	7.500	20.711	0.995	12.800	26.361	0.992
FLT65-3PH	511463	HOB-JCT4	138.00	511464	HOB-JCT2	69.00	TF-1	10.300	28.444	0.991	16.300	33.569	0.987
FLT66-3PH	520814	ANADARK4	138.00	521031	POCASET4	138.0	CKT 1	9.800	27.063	0.992	10.200	21.006	0.995

3.3. Conclusions

The power factor analysis indicates the GEN-2012-028 and GEN-2012-029 interconnection request can maintain 0.95 lagging (supplying vars) and 0.95 leading (absorbing vars) power factors at the point of interconnection respectively at Bus # 520925 (Gotebo 69kV) and Bus # 562278 (Tap on Hobart Jct – Clinton AFB Tap 138kV).

4. Stability Analysis

4.1. Faults Simulated

Sixty Five (65) faults were considered for the transient stability simulations which included three phase faults, as well as single phase line faults, at the locations defined by SPP. Single-phase line faults were simulated by applying a fault impedance to the positive sequence network at the fault location. As per the SPP current practice to compute the fault levels, the fault impedance was computed to give a positive sequence voltage at the specified fault location of approximately 60% of pre-fault voltage. Prior queued projects shown in item #10 in the study request i.e., (Blue Canyon I, Blue Canyon II, Weatherford, Gen-2002-005, Gen-2003-005/Gen-2011-037, Gen-2003-022/Gen-2004-020, Gen-2006-002, Gen-2006-035, Gen-2006-043, Gen-2007-032, Gen-2007-052, Gen-2008-023, Gen-2009-016), other neighboring machines, as well as areas number 520, 524, 525, 526, 531, 534, and 536 were monitored during all the simulations. Table 3.1 shows the list of simulated contingencies. This list also shows the fault clearing time and the time delay before re-closing for all the study contingencies.

Simulations were performed with a 0.1-second steady-state run followed by the appropriate disturbance as described in Table 3.1. Simulations were run for minimum 15-second duration to confirm proper machine damping.

Table 3.1 summarizes the overall results for all faults run. Complete sets of plots for both summer and winter peak seasons for each fault are included in Appendices A and B respectively.

For each power flow case, the following faults were run (3-phase and single phase as noted).

Table 3.1: List of simulated faults for stability analysis

Cont. No.	Cont. Name	Description	Summer Results	Winter Results
1	FLT01-3PH	3 phase fault on the G12-029-TAP (562278) to Cinton AFB Tap (511446) 138kV line, near G12-029-TAP. a. Apply fault at the G12-029-TAP 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
2	FLT02-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
3	FL03-3PH	3 phase fault on the G12-029-TAP (562278) to Hobart Junction (511463) 138kV line, near G12-029-TAP. a. Apply fault at the G12-029-TAP 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
4	FLT04-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
5	FLT05-3PH	3 phase fault on the Gotebo (520925) to Cordell (520866) 69kV line, near Gotebo. a. Apply fault at the Gotebo 69kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
6	FLT06-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
7	FLT07-3PH	3 phase fault on the Gotebo (520925) to Lonewolf (520982) 69kV line, near Lonewolf. a. Apply fault at the Lonewolf 69kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
8	FLT08-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable

Cont. No.	Cont. Name	Description	Summer Results	Winter Results
9	FLT09-3PH	3 phase fault on the Gotebo (520925) to Mountain View (521003) 69kV line, near Mountain View. a. Apply fault at the Mountain View 69kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
10	FLT10-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
11	FLT11-3PH	3 phase fault on the Elk City (511458) to Clinton AFB (511446) 138kV line, near Elk City. a. Apply fault at the Elk City 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
12	FLT12-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
13	FLT13-3PH	3 phase fault on the Hobart Jct (511463) to Carnegie South (511445) 138kV line, near Hobart Jct. a. Apply fault at Hobart Jct. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
14	FLT14-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
15	FLT15-3PH	3 phase fault on the Paradise (521024) to CACHE4 (521105) 138kV line, near Paradise. a. Apply fault at the Paradise 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
16	FLT16-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable

Cont. No.	Cont. Name	Description	Summer Results	Winter Results
17	FLT17-3PH	<p>3 phase fault on the Snyder (521051) to Navajo (521009) 69kV line, near Snyder.</p> <p>a. Apply fault at the Snyder 69kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
18	FLT18-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
19	FLT19-3PH	<p>3 phase fault on the Snyder (521051) to Tipton (521070) 69kV line, near Snyder.</p> <p>a. Apply fault at the Snyder 69kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
20	FLT20-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
21	FLT11-3PH	<p>3 phase fault on the Snyder-4 (511435) to Altus (511440) 138kV line, near Snyder-4.</p> <p>a. Apply fault at the Snyder-4 138kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
22	FLT22-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
23	FLT23-3PH	<p>3 phase fault on the Snyder-4 (511435) to Cache (511500) 138kV line, near Snyder-4.</p> <p>a. Apply fault at the Snyder-4 138kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
24	FLT24-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable

Cont. No.	Cont. Name	Description	Summer Results	Winter Results
25	FLT25-3PH	<p>3 phase fault on the Snyder-2 (511475) to Rosvtap (511444) 69kV line, near Snyder-2.</p> <p>a. Apply fault at the Snyder 69kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
26	FLT26-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
27	FLT27-3PH	<p>3 phase fault on the Snyder-2 (511475) to Fredjc (511460) 69kV line, near Snyder-2.</p> <p>a. Apply fault at the Snyder 69kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
28	FLT28-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
29	FLT29-3PH	<p>3 phase fault on the Snyder-2 (511475) to Headric (511462) 69kV line, near Snyder-2.</p> <p>a. Apply fault at the Snyder 69kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
30	FLT30-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
31	FLT31-3PH	<p>3 phase fault on the Hobart Jct. (511463) to OMALTUS4 (529302) 138kV line, near Hobart Jct.</p> <p>a. Apply fault at Hobart Jct.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
32	FLT32-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable

Cont. No.	Cont. Name	Description	Summer Results	Winter Results
33	FLT33-3PH	3 phase fault on the Anadarko (520814) to Gracmnt (515802) 138kV line, near Anadarko. a. Apply fault at the Anadarko 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
34	FLT34-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
35	FLT35-3PH	3 phase fault on the SNYDER 4 (521052) to Snyder (511435) 138kV line, near Altus. a. Apply fault at Altus 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
36	FLT36-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
37	FLT37-3PH	3 phase fault on the Elk City (511458) to Red Hill Wind (521116) 138kV line, near Elk City. a. Apply fault at Elk City 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
38	FLT38-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
39	FLT39-3PH	3 phase fault on the Anadarko (520814) to Southwest (511477) 138kV line, near Anadarko. a. Apply fault at the Anadarko 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
40	FLT40-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable

Cont. No.	Cont. Name	Description	Summer Results	Winter Results
41	FLT41-3PH	3 phase fault on the Southwest (511477) to Verden (511421) 138kV line, near Southwest. a. Apply fault at the Southwest 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
42	FLT42-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
43	FLT43-3PH	3 phase fault on the Southwest (511477) to Elgin Jct. (511486) 138kV line, near Southwest. a. Apply fault at the Southwest 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
44	FLT44-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
45	FLT45-3PH	3 phase fault on the L.E.S. (511468) to Gracemont (515800) 345kV line, near L.E.S. a. Apply fault at the L.E.S. 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
46	FLT46-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
47	FLT47-3PH	3 phase fault on the GRACMNT4 (515802) to Washita (521089) 138kV line, near Washita. a. Apply fault at the Washita 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
48	FLT48-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable

Cont. No.	Cont. Name	Description	Summer Results	Winter Results
49	FLT49-3PH	<p>3 phase fault on the Oney (521017) to Washita (521089) 138kV line, near Washita.</p> <p>a. Apply fault at the Wahsita 138kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
50	FLT50-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
51	FLT51-3PH	<p>3 phase fault on the Carter Jct. (520846) to Lake Creek (520978) 69kV line, near Carter Jct.</p> <p>a. Apply fault at the Carter Jct. 69kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
52	FLT52-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
53	FLT53-3PH	<p>3 phase fault on the Lake Creek (520978) to Granite (520927) 69kV line, near Lake Creek.</p> <p>a. Apply fault at the Lake Creek 69kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
54	FLT54-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
	FLT55-3PH	<p>3 phase fault on the Elk City (511458) to Falcon Road (511511) 138kV line, near Elk City.</p> <p>a. Apply fault at Elk City 138kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable
	FLT56-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable

Cont. No.	Cont. Name	Description	Summer Results	Winter Results
	FLT57-3PH	3 phase fault on the Southwest (511477) to Washita (521089) 138kV line, near Washita. a. Apply fault at the Washita 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	Stable	Stable
	FLT58-1PH	<i>Single phase fault and sequence like previous</i>	Stable	Stable
59	FLT59-3PH	3 phase fault on the Snyder 138kV (521052) to Snyder 69kV (521051) near the Snyder 138kV bus. a. Apply fault at the Snyder 138kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.	Stable	Stable
60	FLT60-3PH	3 phase fault on the Snyder 138kV (511435) to Snyder 69kV (511475) near the 138kV bus. a. Apply fault at the Snyder 138kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.	Stable	Stable
61	FLT61-3PH	3 phase fault on the Anadarko 138kV (520814) to Anadarko 69kV (520810) near the 138kV bus. a. Apply fault at the Anadarko 138kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.	Stable	Stable
62	FLT62-3PH	3 phase fault on the L.E.S. 138kV (511467) to L.E.S. 345kV (511468)/13.8kV (511411) transformer, near the 138kV bus. a. Apply fault at the L.E.S. 138kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.	Stable	Stable
63	FLT63-3PH	3 phase fault on the Elk City 138kV (511458) to 230kV (511490) transformer, near the 138kV bus. a. Apply fault at the Elk City 138kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.	Stable	Stable
65	FLT65-3PH	3 phase fault on the Hobart Jct. (511463) 138/69kV auto. a. Apply fault at Hobart Jct. b. Clear fault after 5 cycles by tripping the faulted auto.	Stable	Stable

Cont. No.	Cont. Name	Description	Summer Results	Winter Results
66	FLT66-3PH	<p>3 phase fault on the ANADARK4 (520814) to POCASET4 (521031) 138kV line, near ANADARK4.</p> <p>a. Apply fault at the ANADARK4 138kV bus.</p> <p>b. Clear fault after 5 cycles by tripping the faulted line.</p> <p>c. Wait 20 cycles, and then re-close the line in (b) back into the fault.</p> <p>d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>	Stable	Stable

4.2. Simulation Results

There are no impacts on the stability performance of the SPP system for the contingencies tested on the SPP provided base cases.

5. Conclusions

The findings of the impact study for the proposed interconnection projects under DISIS -2012-002 (Group-07), GEN-2012-028 and GEN-2012-029, considered at 100% of their proposed installed capacity is as follows:

1. The power factor analysis indicates that both interconnection requests GEN-2012-028 and GEN-2012-029 are required to maintain a 95% lagging (supplying vars) and 95% leading (absorbing vars) power factor at their respective point of interconnection (Gotebo 69kV Bus #520925 for GEN-2012-028) and (Clinton AFB Tap 138kV Bus #562278).
2. There are no impacts on the stability performance of the SPP system for the contingencies tested on the provided base cases. The study machines stayed on-line and stable for all simulated faults. The Project stability simulations with sixty five (65) specified test disturbances did not show instability problems in the SPP system. Any oscillations were damped out.

6. Appendix A: Summer Peak Case Stability Run Plots

7. Appendix B: Winter Peak Case Stability Run Plots

8. Appendix C: Project Model Data

Appendix C
Project Model Data

MACHINE DATA

Gen-2012-028

```
PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS@E          THU, DEC 27 2012
1:42
MDWG          2012          B1          FINAL          WITH          2011          MMWG
GENERATOR
MDWG 2014S WITH MMWG 2013S; FOR DYN; RED DYN          UNIT
DATA
BUS# X-- NAME --X BASKV CD ID ST  PGEN    QGEN    QMAX    QMIN    PMAX    PMIN
OWN FRACT  OWN FRACT  MBASE  Z S O R C E    X T R A N    GENTAP WMOD  WPF
583403 G12-028-GEN10.6900 2 1 1  74.8    1.3    36.2   -36.2   74.8    3.5
1 1.000          83.2 0.0000 0.8000
```

GEN-2012-028 MACHINE USER MODEL PARAMETERS

```
/ ***** Gen-2012-028 Little Elk East *****
```

```
/ GE 1.70 MW (gewt_p32_v600.lib)
```

```
583403 'USRMDL' 1 'GEWTG2' 1 1 4 18 3 5
      0 44      0      0
      1.7000    0.80000    0.50000    0.90000    1.2200
1.2000
      2.0000    0.40000    0.80000    10.000    0.20000E-
01  0.0000
      0.0000    0.50000    0.16700    0.90000    0.92500
0.0000 /
583403 'USRMDL' 1 'GEWTE2' 4 0 12 67 18 9
      583403      0      0      1
0      0
      0      0      0      0
0      0
      0.15000    2.000    1.0000    0.0000    0.0000
0.50000E-01  3.0000
      0.60000    1.1200    0.40000E-01  0.43600    -0.43600
1.1000    0.20000E-01
      0.45000          -0.45000          60.000
0.10000          0.90000
      1.1000          40.000          0.50000
1.4500          0.50000E-01
      0.50000E-01          1.0000          0.15000
0.96000          0.99600
      1.0040          1.0400          0.99999
0.99999          0.99999
```

	0.40000		1.0000		0.20000
1.0000		0.25000			
	-1.0000		14.0000		25.000
3.0000		-0.90000			
	8.0000		0.20000		10.000
1.0000		1.7000			
	1.2200		1.2500		5.0000
0.0000		0.0000			
	10.000		0.25000E-02		1.0000
5.5000		0.10000			
	-1.0000		0.10000		0.0000
0.10000		-0.10000			
	0.70000		0.12000		-0.12000 /
583403	'USRMDL'	1	'GEWTT1'	5	0
				1	5
				4	3
					0
	4.3600		0.0000		0.0000
1.8800					
2.3000	/				
0	'USRMDL'	0	'GEWGC1'	8	0
				3	6
				0	4
	583403		'1'		0
	9999.0		5.0000		30.000
9999.0					9999.0
	30.000	/			
0	'USRMDL'	0	'GEWTA1'	8	0
				3	9
				1	4
	583403		'1'		0
	20.000		0.0000		27.000
-4.0000					
0.0000	1.2250				
	48.7		89.77		1200.0 /
0	'USRMDL'	0	'GEWTP1'	8	0
				3	10
				3	3
	583403		'1'		0
	0.30000		150.00		25.000
3.0000					3.0000
30.000					
	-4.0000		27.000		-10.000
10.000					
1.0000	/				
0	'USRMDL'	0	'GEWPLT'	8	0
				2	0
				0	0
				17	
					583403
					'1'

Gen-2012-029

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS@E THU, DEC 27 2012
1:48
MDWG 2012 B1 FINAL WITH 2011 MMWG
GENERATOR
MDWG 2014S WITH MMWG 2013S; FOR DYN; RED DYN UNIT
DATA
BUS# X-- NAME --X BASKV CD ID ST PGEN QGEN QMAX QMIN PMAX PMIN
OWN FRACT OWN FRACT MBASE Z S O R C E X T R A N GENTAP WMOD WPF
583413 G12-029-GEN10.6900 2 1 1 100.3 7.3 48.6 -48.6 100.3 4.7
1 1.000 111.5 0.0000 0.8000

GEN-2012-029 MACHINE USER MODEL PARAMETERS

583413 'USRMDL' 1 'GEWTG2' 1 1 4 18 3 5
0 59 0 0
1.7000 0.80000 0.50000 0.90000 1.2200
1.2000
2.0000 0.40000 0.80000 10.000 0.20000E-
01 0.0000
0.0000 0.50000 0.16700 0.90000 0.92500
0.0000 /
583413 'USRMDL' 1 'GEWTE2' 4 0 12 67 18 9
583413 0 0 1
0 0 0 0 0
0 0
0.15000 2.000 1.0000 0.0000 0.0000
0.50000E-01 3.0000
0.60000 1.1200 0.40000E-01 0.43600 -0.43600
1.1000 0.20000E-01
0.45000 -0.45000 60.000
0.10000 0.90000
1.1000 40.000 0.50000
1.4500 0.50000E-01
0.50000E-01 1.0000 0.15000
0.96000 0.99600
1.0040 1.0400 0.99999
0.99999 0.99999
0.40000 1.0000 0.20000
1.0000 0.25000
-1.0000 14.0000 25.000
3.0000 -0.90000

	8.0000		0.20000		10.000
1.0000		1.7000			
	1.2200		1.2500		5.0000
0.0000		0.0000			
	10.000		0.25000E-02		1.0000
5.5000		0.10000			
	-1.0000		0.10000		0.0000
0.10000		-0.10000			
	0.70000		0.12000		-0.12000 /
583413	'USRMDL' 1	'GEWTT1'	5 0	1 5 4	3 0
	4.3600		0.0000	0.0000	1.8800
2.3000	/				
	0 'USRMDL' 0	'GEWGC1' 8	0 3 6 0	4	
	583413	'1 ' 0			
	9999.0		5.0000	30.000	9999.0
9999.0					
	30.000 /				
	0 'USRMDL' 0	'GEWTA1'	8 0 3 9	1 4	
	583413	'1 ' 0			
	20.000		0.0000	27.000	-4.0000
0.0000	1.2250				
	48.7	89.77	1200.0 /		
	0 'USRMDL' 0	'GEWTP1'	8 0 3 10	3 3	
	583413	'1 ' 0			
	0.30000		150.00	25.000	3.0000
30.000					
	-4.0000		27.000	-10.000	10.000
1.0000	/				
	0 'USRMDL' 0	'GEWPLT' 8	0 2 0 0 17	583413	'1 '

N: Group 8 Dynamic Stability Analysis Report

See Mitsubishi report on next page.



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Southwest Power Pool, Inc. (SPP)

DISIS-2012-002 (Group 8) Definitive Impact Study

Final Report

**PXE-0652
Revision #01**

January 2013

**Submitted By:
Mitsubishi Electric Power Products, Inc. (MEPPI)
Power Systems Engineering Services Department
Warrendale, PA**

Title: DISIS-2012-002 (Group 8) Definitive Impact Study: Final Report PXE-0652

Date: January 2013

Author: Nicholas W. Tenza; Engineer I, Power Systems Engineering Dept. Nicholas W. Tenza

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Robert T. Hellested, Deputy Mngr., Power Systems Engineering Dept. Robert T. Hellested

EXECUTIVE SUMMARY

SPP requested a Definitive Interconnection System Impact Study (DISIS). The DISIS required a Power Factor Analysis and a Stability Analysis detailing the impacts of the interconnecting projects as shown in Table ES-1.

Table ES-1
Interconnection Projects Evaluated

Request	Size (MW)	TurbineModel	Point of Interconnection (POI)
GEN-2012-023	115	Siemens 2.3 MW	Viola 345 kV (532798)
GEN-2012-027	150.7	GE 1.62 MW	Shidler 138 kV (510403)
GEN-2012-032	300	Vestas V112 3.0 MW	Tap Rose Hill-Sooner 345kV (562299)
GEN-2012-033	98.8	GE 1.6 MW	Tap Bunch Creek-South 4th (562303)
GEN-2012-040	76.5	GE 1.7 MW	Chilocco 138kV (521198)
GEN-2012-041	85 Summer 121 Winter	GENROU	Tap Rose Hill-Sooner 345kV (562318)

SUMMARY OF POWER FACTOR ANALYSIS

The Power Factor Analysis shows that:

- GEN-2012-023 has a power factor range of 0.9827 lagging (supplying) to 0.9978 leading (absorbing).
- GEN-2012-027 has a power factor range of 0.9943 lagging (supplying) to 0.9892 leading (absorbing).
- GEN-2012-032 has a power factor range of 0.9398 lagging (supplying) to 0.9708 leading (absorbing).



- GEN-2012-033 has a power factor range of 0.9854 lagging (supplying) to 0.9875 leading (absorbing).
- GEN-2012-040 has a power factor range of 0.9824 lagging (supplying) to 0.9659 leading (absorbing).
- GEN-2012-041 has a power factor range of 0.6497 lagging (supplying) to 0.8457 leading (absorbing).

SUMMARY OF STABILITY ANALYSIS

For the Summer Peak and Winter Peak case, the Stability Analysis determined that there was no wind turbine tripping or system instability that occurs from interconnecting GEN-2012-023, GEN-2012-027, GEN-2012-032, GEN-2012-33, GEN-2012-40, and GEN-2012-041 at 100% output. Note that GEN12-032-Tap has a post-fault voltage of 0.94 p.u. for the Winter Peak case.



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SECTION 1: OBJECTIVES

The objective of this report is to provide Southwest Power Pool, Inc. (SPP) with the deliverables for the “DISIS-2012-002 (Group 8) Definitive Impact Study.” SPP requested an Interconnection System Impact Study for GEN-2012-023, GEN-2012-027, GEN-2012-032, GEN-2012-033, GEN-2012-040, and GEN-2012-041, which requires a Power Factor Analysis, a Stability Analysis, and an Impact Study Report.

SECTION 2: BACKGROUND

The Siemens Power Technologies, Inc. PSS/E power system simulation program Version 32.2.0 was used for this study. SPP provided the stability database cases for summer peak and winter peak seasons and a list of contingencies to be examined. The model includes the study project and the previously queued projects as listed in Table 2-1 and Table 2-2, respectively. Refer to Appendix A for the steady-state and dynamic model data for the study projects. A power flow one-line diagram of GEN-2012-023, GEN-2012-027, GEN-2012-032, GEN-2012-033, GEN-2012-040, and GEN-2012-041 interconnection projects are shown in Figures 2-1 through 2-6, respectively.

The Power Factor analysis will determine the power factor at the point of interconnection for the wind interconnection project for pre-contingency and post-contingency conditions. Table 2-4 lists the contingencies developed from the three-phase fault definitions provided in the Group’s interconnection impact study request.

The Stability Analysis will determine the impacts of the new interconnecting project on the stability and voltage recovery of the nearby system and the ability of the interconnecting project to meet FERC Order 661A. If problems with stability or voltage recovery are identified, the need for reactive compensation or system upgrades will be investigated. Three-phase and single-phase faults will be examined as listed in Table 2-3.

**Table 2-1
Interconnection Projects Evaluated**

Request	Size (MW)	TurbineModel	Point of Interconnection (POI)
GEN-2012-023	115	Siemens 2.3 MW	Viola 345 kV (532798)
GEN-2012-027	150.7	GE 1.62 MW	Shidler 138 kV (510403)
GEN-2012-032	300	Vestas V112 3.0 MW	Tap Rose Hill-Sooner 345kV (562299)
GEN-2012-033	98.8	GE 1.6 MW	Tap Bunch Creek-South 4th (562303)
GEN-2012-040	76.5	GE 1.7 MW	Chilocco 138kV (521198)
GEN-2012-041	85 Summer 121 Winter	GENROU	Tap Rose Hill-Sooner 345kV (562318)

**Table 2-2
Previously Queued Nearby Interconnection Projects Included**

Request	Size (MW)	TurbineModel	Point of Interconnection (POI)
GEN-2002-004	199.5	GE.1.5MW	Latham 345kV (532800)
GEN-2005-013	199.8	Vestas V90 1.8MW	Caney River 345kV (532780)
GEN-2007-025	299.2	GE 1.6MW	Viola 345kV (532798)
GEN-2008-013	300	G.E. 1.5MW	Hunter 345kV (515476)
GEN-2008-021	1283	GENROU	Wolf Creek 345kV (532797)
GEN-2009-025	59.8	Siemens 2.3MW	Tap on the Deerck – Sinclbk 69KV line (560156)
GEN-2008-071	76.8	GE 1.6MW	Newkirk 138kV (514759)
GEN-2008-098	100.8	Vestas V90 1.8MW	Tap on the Wolf Creek – LaCygne 345kV line (560004)
GEN-2010-003	100.8	Vestas V90 1.8MW	Tap on the Wolf Creek – LaCygne 345kV line (560004)
GEN-2010-005	299.2	GE 1.6MW	Viola 345kV (532798)
GEN-2010-055	4.5	GENROU	Wekiwa 138kV (509757)
GEN-2011-057	150.4	GE 1.6MW	Creswell 138kV (532981)
ASGI-2010-006	150	GE1.5MW	Remington 138kV (301369)

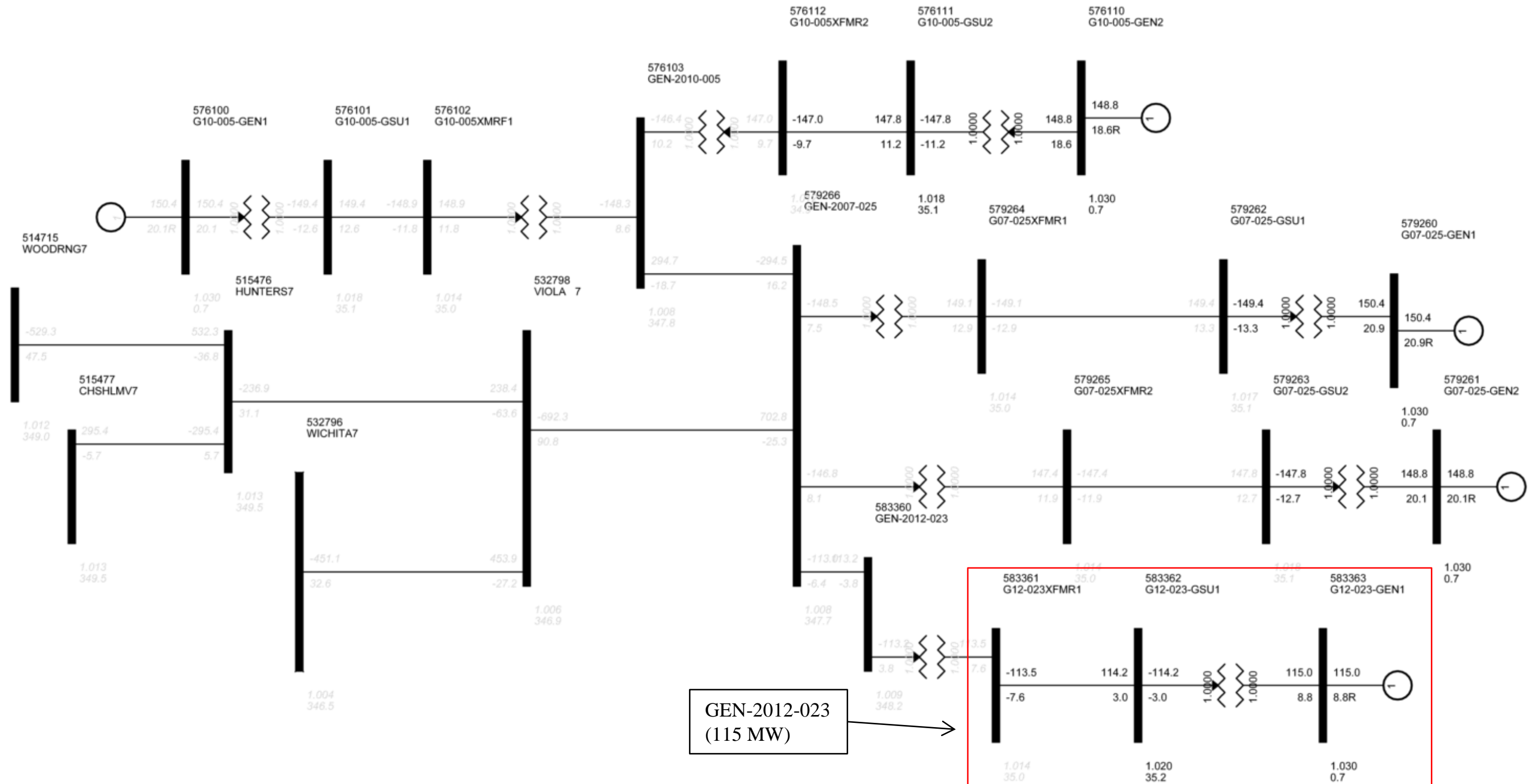


Figure 2-1. Power flow one-line diagram for interconnection project GEN-2012-023 (115 MW).

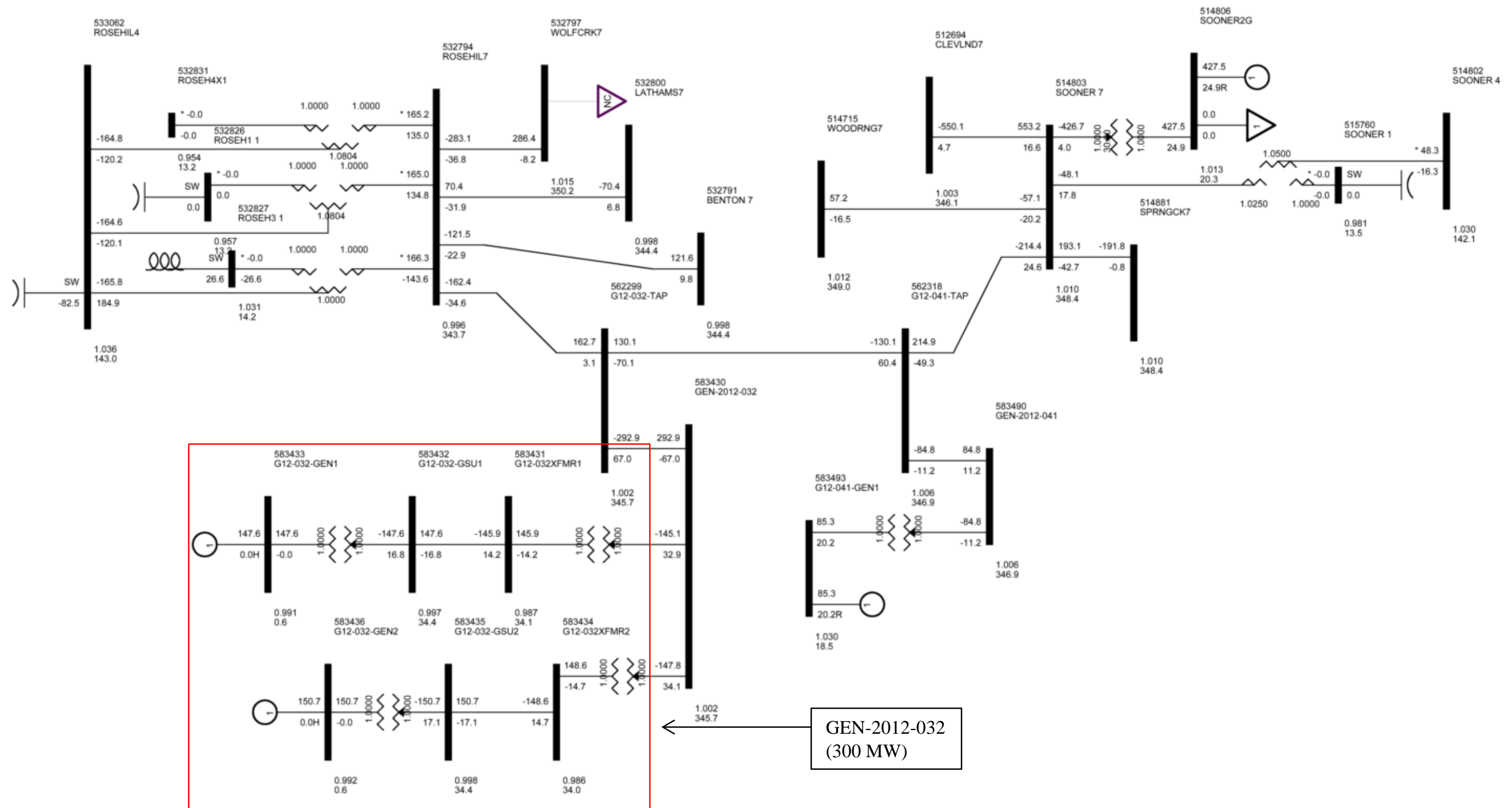


Figure 2-3. Power flow one-line diagram for interconnection project GEN-2012-032 (300 MW).

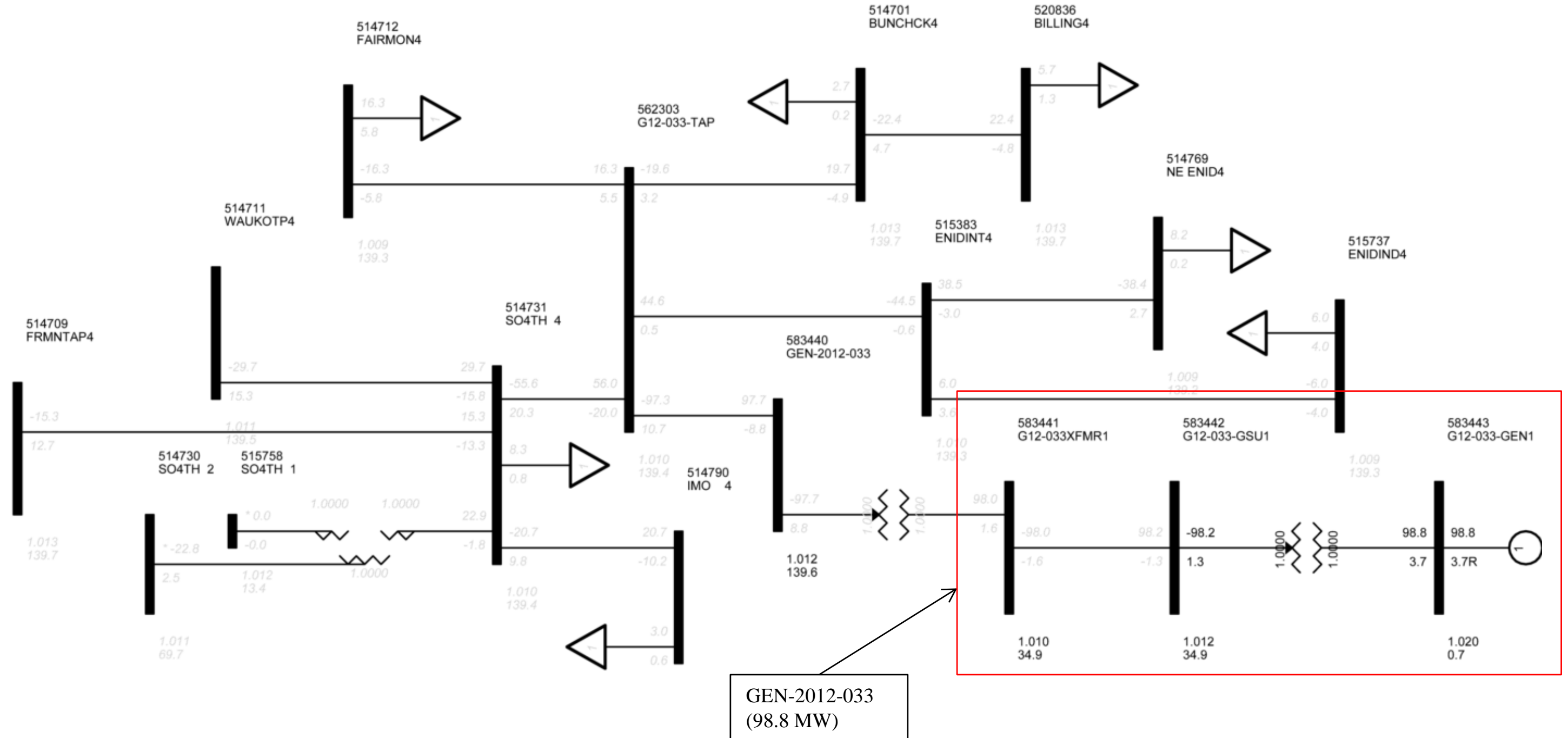


Figure 2-4. Power flow one-line diagram for interconnection project GEN-2012-033 (98.8 MW).

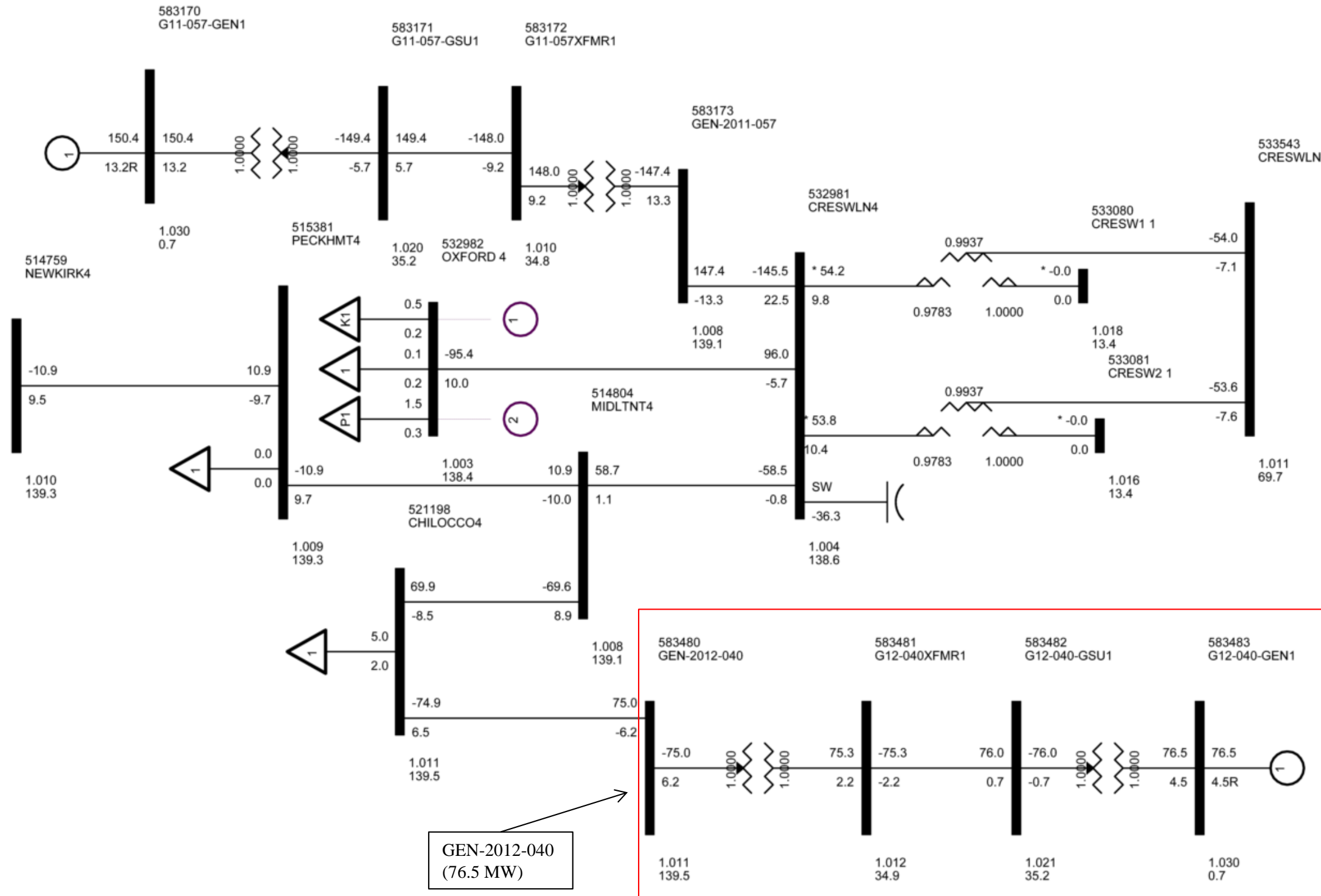


Figure 2-5. Power flow one-line diagram for interconnection project GEN-2012-040 (76.5 MW).

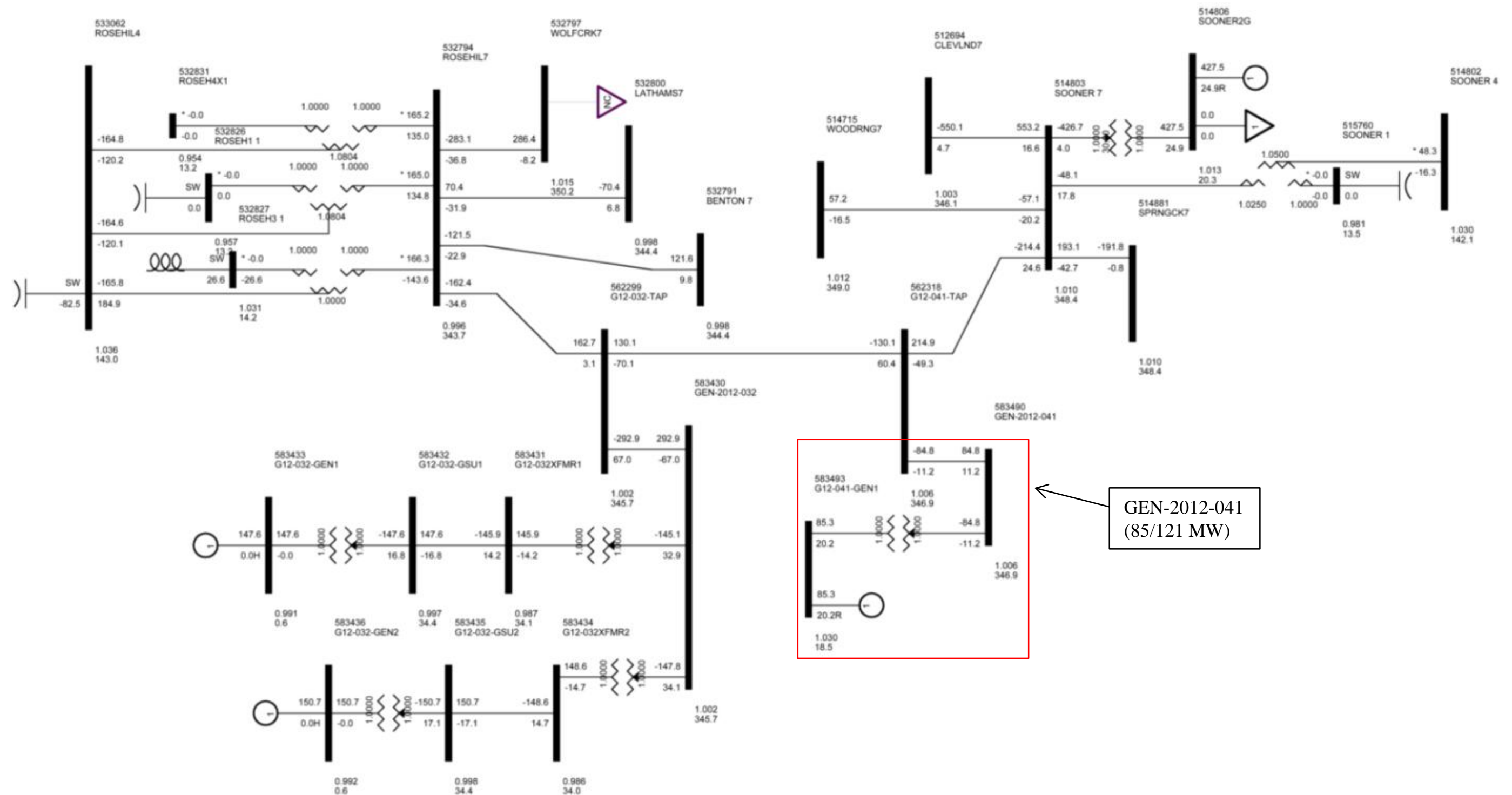


Figure 2-6. Power flow one-line diagram for interconnection project GEN-2012-041 (85/121 MW).



Table 2-3
Case List with Contingency Description

Ref. No.	Case Name	Description
1	FLT01-3PH	3 phase fault on the Viola (532798) to Hunters (515476) 345kV line, near Viola. a. Apply fault at the Viola 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
2	FLT02-1PH	<i>Single phase fault and sequence like previous</i>
3	FLT03-3PH	3 phase fault on the Viola (532798) to Wichita (532796) 345kV line, near Viola. a. Apply fault at the Viola 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
4	FLT04-1PH	<i>Single phase fault and sequence like previous</i>
5	FLT05-3PH	3 phase fault on the Wichita (532796) to Emporia Energy Center (532768) 345kV line, near Wichita. a. Apply fault at the Wichita 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
6	FLT06-1PH	<i>Single phase fault and sequence like previous</i>
7	FLT07-3PH	3 phase fault on the Wichita (532796) to Reno (532771) 345kV line, near Wichita. a. Apply fault at the Wichita 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
8	FLT08-1PH	<i>Single phase fault and sequence like previous</i>
9	FLT09-3PH	3 phase fault on the Wichita (532796) to Benton (532791) 345kV line, near Wichita. a. Apply fault at the Wichita 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
10	FLT10-1PH	<i>Single phase fault and sequence like previous</i>
11	FLT11-3PH	3 phase fault on the Wichita (532796) to Thistle (539801) 345kV ckt1 line, near Wichita. a. Apply fault at the Wichita 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
12	FLT12-1PH	<i>Single phase fault and sequence like previous</i>
13	FLT13-3PH	3 phase fault on the Hunters (515476) to Woodring (514715) 345kV line, near Hunters. a. Apply fault at the Hunters 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
14	FLT14-1PH	<i>Single phase fault and sequence like previous</i>
15	FLT15-3PH	3 phase fault on the Hunters (515476) to Chisolm (515477) 345kV line, near Hunters. a. Apply fault at the Hunters 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
16	FLT16-1PH	<i>Single phase fault and sequence like previous</i>





Table 2-3 (Continued)
Case List with Contingency Description

Ref. No.	Case Name	Description
17	FLT17-3PH	3 phase fault on the Sooner (514803) to Cleveland (512694) 345kV line, near Sooner. a. Apply fault at the Sooner 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
18	FLT18-1PH	<i>Single phase fault and sequence like previous</i>
19	FLT19-3PH	3 phase fault on the Sooner (514803) to Woodring (514715) 345kV line, near Sooner. a. Apply fault at the Sooner 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
20	FLT20-1PH	<i>Single phase fault and sequence like previous</i>
21	FLT21-3PH	3 phase fault on the Sooner (514803) to Spring Creek (514881) 345kV line, near Sooner. a. Apply fault at the Sooner 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
22	FLT22-1PH	<i>Single phase fault and sequence like previous</i>
23	FLT23-3PH	3 phase fault on the G12-041-Tap (562318) to G12-032-Tap (562299) 345kV line, near G12-041-Tap. a. Apply fault at the G12-041-Tap 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
24	FLT24-1PH	<i>Single phase fault and sequence like previous</i>
25	FLT25-3PH	3 phase fault on the G12-041-Tap (562318) to Sooner (514803) 345kV line, near G12-041-Tap. a. Apply fault at the G12-041-Tap 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
26	FLT26-1PH	<i>Single phase fault and sequence like previous</i>
27	FLT27-3PH	3 phase fault on the G12-032-Tap (562299) to Rosehill (532794) 345kV line, near G12-032-Tap. a. Apply fault at the G12-032-Tap 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
28	FLT28-1PH	<i>Single phase fault and sequence like previous</i>
29	FLT29-3PH	3 phase fault on the Rosehill (532794) to Benton (532791) 345kV line, near Rosehill. a. Apply fault at the Rosehill 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
30	FLT30-1PH	<i>Single phase fault and sequence like previous</i>
31	FLT31-3PH	3 phase fault on the Rosehill (532794) to Wolf Creek (532797) 345kV line, near Rosehill. a. Apply fault at the Rosehill 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
32	FLT32-1PH	<i>Single phase fault and sequence like previous</i>





Table 2-3 (Continued)
Case List with Contingency Description

Ref. No.	Case Name	Description
33	FLT33-3PH	3 phase fault on the Rosehill (532794) to Latham (532800) 345kV line, near Rosehill. a. Apply fault at the Rosehill 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
34	FLT34-1PH	<i>Single phase fault and sequence like previous</i>
35	FLT35-3PH	3 phase fault on the Shidler (510403) to Remington (301369) 138kV line, near Shidler. a. Apply fault at the Shidler 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
36	FLT36-1PH	<i>Single phase fault and sequence like previous</i>
37	FLT37-3PH	3 phase fault on the Shidler (510403) to Fairfax Tap (510377) 138kV line, near Shidler. a. Apply fault at the Shidler 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
38	FLT38-1PH	<i>Single phase fault and sequence like previous</i>
39	FLT39-3PH	3 phase fault on the Shidler (510403) to WPA WHSK (5103810) 138kV line, near Shidler. a. Apply fault at the Shidler 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
40	FLT40-1PH	<i>Single phase fault and sequence like previous</i>
41	FLT41-3PH	3 phase fault on the Webb Tap (510376) to Osage (514743) 138kV line, near Webb Tap. a. Apply fault at the Webb Tap 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
42	FLT42-1PH	<i>Single phase fault and sequence like previous</i>
43	FLT43-3PH	3 phase fault on the Mound Road (510395) to Domes (510383) 138kV line, near Mound Road. a. Apply fault at the Mound Road 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
44	FLT44-1PH	<i>Single phase fault and sequence like previous</i>
45	FLT45-3PH	3 phase fault on the Mound Road (510395) to Bamsdall Pump (510433) 138kV line, near Mound Road. a. Apply fault at the Mound Road 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
46	FLT46-1PH	<i>Single phase fault and sequence like previous</i>
47	FLT47-3PH	3 phase fault on the Mound Road (510395) to Bartlesville Comanche (510390) 138kV line, near Mound Road. a. Apply fault at the Mound Road 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
48	FLT48-1PH	<i>Single phase fault and sequence like previous</i>





Table 2-3 (Continued)
Case List with Contingency Description

Ref. No.	Case Name	Description
49	FLT49-3PH	3 phase fault on the Osage (514743) to Standing Bear (514758) 138kV line, near Osage. a. Apply fault at the Osage 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
50	FLT50-1PH	<i>Single phase fault and sequence like previous</i>
51	FLT51-3PH	3 phase fault on the Osage (514743) to White Eagle (514758) 138kV line, near Osage. a. Apply fault at the Osage 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
52	FLT52-1PH	<i>Single phase fault and sequence like previous</i>
53	FLT53-3PH	3 phase fault on the Osage (514743) to SNRPMPT (514798) 138kV line, near Osage. a. Apply fault at the Osage 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
54	FLT54-1PH	<i>Single phase fault and sequence like previous</i>
55	FLT55-3PH	3 phase fault on the Osage (514743) to MARLNDT (514770) 138kV line, near Osage. a. Apply fault at the Osage 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
56	FLT56-1PH	<i>Single phase fault and sequence like previous</i>
57	FLT57-3PH	3 phase fault on the Pawnee SW (512749) to Cleveland (300138) 138kV line, near Pawnee SW. a. Apply fault at the Pawnee SW 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
58	FLT58-1PH	<i>Single phase fault and sequence like previous</i>
59	FLT59-3PH	3 phase fault on the Pawnee SW (512749) to Fairfax (300139) 138kV line, near Pawnee SW. a. Apply fault at the Pawnee SW 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
60	FLT60-1PH	<i>Single phase fault and sequence like previous</i>
61	FLT61-3PH	3 phase fault on the Pawnee SW (512749) to Stillwater (300141) 138kV line, near Pawnee SW. a. Apply fault at the Pawnee SW 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
62	FLT62-1PH	<i>Single phase fault and sequence like previous</i>
63	FLT63-3PH	3 phase fault on the G12-033-Tap (562303) to Bunch Creek (514701) 138kV line, near G12-033-Tap. a. Apply fault at the G12-033-Tap 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
64	FLT64-1PH	<i>Single phase fault and sequence like previous</i>





Table 2-3 (Continued)
Case List with Contingency Description

Ref. No.	Case Name	Description
65	FLT65-3PH	3 phase fault on the G12-033-Tap (562303) to Enid INT (515383) 138kV line, near G12-033-Tap. a. Apply fault at the G12-033-Tap 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
66	FLT66-1PH	<i>Single phase fault and sequence like previous</i>
67	FLT67-3PH	3 phase fault on the NE Enid (514769) to Enid INT (515383) 138kV line, near NE Enid. a. Apply fault at the NE Enid 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
68	FLT68-1PH	<i>Single phase fault and sequence like previous</i>
69	FLT69-3PH	3 phase fault on the South 4th (514731) to Waukotp (514711) 138kV line, near South 4th. a. Apply fault at the South 4th 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
70	FLT70-3PH	3 phase fault on the South 4 th (514731) to IMO (514790) 138kV line, near South 4 th . a. Apply fault at the South 4 th 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
71	FLT71-3PH	3 phase fault on the Woodring 138kV (514714) to Woodring (514715) 345kV/(515770) 13.8kV transformer, near the 138kV bus. a. Apply fault at the Woodring 138kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer
72	FLT72-3PH	3 phase fault on the South 4 th 138kV (514731) to South 4 th (514730) 69kV/(515758) 13.2kV transformer, near the 138kV bus. a. Apply fault at the South 4 th 138kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer
73	FLT73-3PH	3 phase fault on the G12-033-Tap (562303) to South 4 th St. (514731) 138kV line, near G12-033-Tap. a. Apply fault at the G12-033-Tap 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
74	FLT74-1PH	<i>Single phase fault and sequence like previous</i>
75	FLT75-3PH	3 phase fault on the Middleton (514804) to Peckham Tap (515381) 138kV line, near Middleton. a. Apply fault at the Middleton 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
76	FLT76-1PH	<i>Single phase fault and sequence like previous</i>



**Table 2-3 (Continued)
Case List with Contingency Description**

Ref. No.	Case Name	Description
77	FLT77-3PH	3 phase fault on the Middleton (514804) to Creswell (532981) 138kV line, near Middleton. a. Apply fault at the Middleton 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
78	FLT78-1PH	<i>Single phase fault and sequence like previous</i>
79	FLT79-3PH	3 phase fault on the Kildare (514760) to Chikskia (514757) 138kV line, near Kildare. a. Apply fault at the Kildare 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
80	FLT80-1PH	<i>Single phase fault and sequence like previous</i>
81	FLT81-3PH	3 phase fault on the Kildare (514760) to White Eagle (514761) 138kV line, near Kildare. a. Apply fault at the Kildare 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
82	FLT82-1PH	<i>Single phase fault and sequence like previous</i>
83	FLT83-3PH	3 phase fault on the Sumner (532984) to Oxford (532982) 138kV line, near Sumner. a. Apply fault at the Sumner 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
84	FLT84-1PH	<i>Single phase fault and sequence like previous</i>
85	FLT85-3PH	3 phase fault on the Sumner (532984) to Timber Jct (532992) 138kV line, near Sumner. a. Apply fault at the Sumner 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
86	FLT86-1PH	<i>Single phase fault and sequence like previous</i>
87	FLT87-3PH	3 phase fault on the Wichita 345kV (532796) to Evans (533040) 138kV/(532829) 13.8kV transformer, near the 345kV bus. a. Apply fault at the Wichita 345kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
88	FLT88-3PH	3 phase fault on the Sooner 345kV (514803) to Sooner (514802) 138kV/(515760) 13.8kV transformer, near the 345kV bus. a. Apply fault at the Sooner 345kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
89	FLT89-3PH	3 phase fault on the Rosehill 345kV (532794) to Rosehill (533062) 138kV/(532831) 13.8kV transformer, near the 345kV bus. a. Apply fault at the Rosehill 345kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.



Table 2-3 (Continued)
Case List with Contingency Description





Ref. No.	Case Name	Description
C5	FLTC5-3PH	<p>Prior outage of Wolf Creek-Benton line; Wolf Creek output at 800 MW (Transmission Operating Directive 300); GEN-2008-098/GEN-2010-003 off-line; 3-phase fault for 3.6 cycles at Wolf Creek 345 kV; Trip Wolf Creek to G08-098-Tap line; No reclosing.</p> <ol style="list-style-type: none"> a. Prior conditions -- <ol style="list-style-type: none"> 1. Prior outage of Wolf Creek (532797) to Benton (532791) 345kV line 2. Wolf Creek output reduced to 800 MW 3. GEN-2008-098 (572094) and GEN-2010-003 (577200) taken off line (outputs reduced to 0 MW) b. Apply fault at Wolf Creek (532797) 345kV c. Run for 3.6 cycles d. Clear fault e. Trip Wolf Creek (532797) to G08-098-TAP (560004) 345kV line f. Run to 20.0 seconds
C10	FLTC10-3PH	<p>Prior outage of Wolf Creek-LaCygne 345 kV line; Wolf Creek output at 800 MW (Transmission Operating Directive 302); GEN-2008-098/GEN-2010-003 off-line; 3-phase fault at Wolf Creek 345 kV for 3.6 cycles; Trip Wolf Creek-Benton 345kV; No reclosing.</p> <ol style="list-style-type: none"> a. Prior conditions -- <ol style="list-style-type: none"> 1. Prior outage of Wolf Creek (532797) to G08-098-Tap (560004) 345kV line 2. Wolf Creek output reduced to 800 MW 3. GEN-2008-098 (572094) and GEN-2010-003 (577200) taken off line (outputs reduced to 0 MW) b. Apply fault at Wolf Creek (532797) 345kV c. Run for 3.6 cycles d. Clear fault e. Trip Wolf Creek (532797) to Benton (532791) 345kV line f. Run to 20.0 seconds
C25	FLTC25-3PH	<p>Prior outage of Wolf Creek-Rose Hill line; Wolf Creek output at 800 MW (Transmission Operating Directive 301); GEN-2008-098/GEN-2010-003 off-line; 3-Phase fault at Wolf Creek 345 kV for 3.6 cycles; Trip Wolf Creek-G08-098-Tap line; No reclosing.</p> <ol style="list-style-type: none"> a. Prior conditions -- <ol style="list-style-type: none"> 1. Prior outage of Wolf Creek (532797) to Rose Hill (532794) 345kV line 2. Wolf Creek output reduced to 800 MW 3. GEN-2008-098 (572094) and GEN-2010-003 (577200) taken off line (outputs reduced to 0 MW) b. Apply fault at Wolf Creek (532797) 345kV c. Run for 3.6 cycles d. Clear fault e. Trip Wolf Creek (532797) to G08-098-TAP (560004) 345kV line f. Run to 20.0 seconds



SECTION 3: POWER FACTOR ANALYSIS

The objective of this task is to quantify the power factor at the point of interconnection for the wind farms during base case and system contingencies. This is analyzed by having the wind farm maintain a prescribed voltage schedule at the point of interconnection of 1.0 p.u. voltage, or if the pre-project voltage is higher than 1.0 p.u., to maintain the pre-project voltage schedule.

Both winter peak and summer peak power flows provided by SPP were examined prior to the Power Factor Analysis to ensure they contained the proposed study project modeled at 100% of the nameplate rating and any previously queued projects listed in Table 2-2. There was no suspect power flow data of concern in the study area. The proposed study project and any previously queued projects at the same point of interconnection were turned off during the power factor analysis. The wind farm(s) were then replaced by a generator modeled at the high side bus with the same real power (MW) capability as the wind farm(s) and open limits for the reactive power set points (Mvar). The generator was set to hold the POI scheduled bus voltage or 1.0 p.u. voltage, whichever value is higher. Contingencies from the three-phase fault definitions provided in Table 2-3 were then applied and the reactive power required to maintain the bus voltage was recorded.

3.1 Study Project – GEN-2012-023

Approach

The study project (GEN-2012-023) and two previous queued projects (GEN-2010-005 and GEN-2007-025) share the same POI (Viola 345 kV Bus - Bus 532798). These projects were disabled and two generators were placed at the study project's point of interconnect bus, one was modeled with $P_{GEN} = 115$ MW (GEN-2012-023), $Q_{Min} = -9999$ Mvar, and $Q_{Max} = 9999$ Mvar and the other generator was modeled with $P_{GEN} = 598.4$ MW (GEN-2010-005 and GEN-2007-025), $Q_{Min} = -9999$ Mvar, and $Q_{Max} = 9999$ Mvar. All buses and transformers connected from the study project's POI bus to the corresponding generators were disabled. The pre-project voltage at the POI (Viola 345 kV Bus - Bus 532798) for the summer peak conditions is 1.0055 p.u. and for the winter peak conditions is 0.9939 p.u. Therefore, the scheduled voltage for the POI was set to 1.0055 p.u. for summer peak conditions and 1.00 p.u. for winter peak conditions.

Results

The power factor was calculated for summer and winter peak conditions. Tables 3-1 and 3-2 show the power factor results for GEN-2012-023 for summer and winter peak conditions, respectively. Note that a positive Q (Mvar) output illustrates that the generator is absorbing reactive power from the system, implying a leading power factor; a negative Q (Mvar) illustrates that the generator is supplying reactive power to the system, implying a lagging power factor.



Table 3-1
Power Factor Analysis: GEN-2012-023 ($P_{GEN} = 115$ MW)*

Power Factor Analysis: Summer Peak Conditions							
Power Factor Analysis: GEN-2012-023 ($P_{GEN} = 115$ MW)							
Case	Summer Peak			Case	Summer Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9995	Leading	3.544	C51	0.9995	Leading	3.547
C1	0.9977	Lagging	-7.860	C53	0.9995	Leading	3.478
C3	0.9959	Lagging	-10.508	C55	0.9995	Leading	3.510
C5	0.9999	Leading	1.695	C57	0.9995	Leading	3.537
C7	0.9997	Leading	2.667	C59	0.9995	Leading	3.525
C9	0.9990	Leading	5.057	C61	0.9995	Leading	3.506
C11	1.0000	Lagging	-0.864	C63	0.9995	Leading	3.505
C13	0.9962	Lagging	-9.997	C65	0.9995	Leading	3.480
C15	0.9995	Leading	3.544	C67	0.9995	Leading	3.496
C17	0.9997	Leading	2.651	C69	0.9995	Leading	3.583
C19	0.9997	Leading	2.966	C70	0.9995	Leading	3.593
C21	0.9996	Leading	3.391	C71	0.9994	Leading	3.861
C23	0.9999	Leading	1.992	C72	0.9995	Leading	3.527
C25	0.9998	Leading	2.568	C73	0.9995	Leading	3.603
C27	0.9998	Leading	2.340	C75	0.9995	Leading	3.556
C29	0.9994	Leading	3.941	C77	0.9996	Leading	3.385
C31	0.9999	Leading	1.482	C79	0.9995	Leading	3.549
C33	0.9996	Leading	3.201	C81	0.9995	Leading	3.573
C35	0.9995	Leading	3.552	C83	0.9995	Leading	3.556
C37	0.9995	Leading	3.559	C85	0.9995	Leading	3.476
C39	0.9995	Leading	3.544	C87	0.9978	Leading	7.707
C41	0.9995	Leading	3.554	C88	0.9995	Leading	3.560
C43	0.9995	Leading	3.476	C89	0.9996	Leading	3.244
C45	0.9995	Leading	3.535	C-C5	1.0000	Lagging	-0.260
C47	0.9995	Leading	3.509	C-C10	1.0000	Lagging	-0.260
C49	0.9995	Leading	3.547	C-C25	1.0000	Lagging	-1.117

*The scheduled voltage for the POI (Viola 345 kV) was 1.0055 p.u. for summer peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.





Table 3-2
Power Factor Analysis: GEN-2012-023 ($P_{GEN} = 115$ MW)*

Power Factor Analysis: Winter Peak Conditions							
Power Factor Analysis: GEN-2012-023 ($P_{GEN} = 115$ MW)							
Case	Winter Peak			Case	Winter Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9989	Lagging	-5.483	C51	0.9989	Lagging	-5.492
C1	0.9863	Lagging	-19.201	C53	0.9988	Lagging	-5.551
C3	0.9967	Lagging	-9.360	C55	0.9989	Lagging	-5.457
C5	0.9965	Lagging	-9.579	C57	0.9989	Lagging	-5.502
C7	0.9969	Lagging	-9.067	C59	0.9988	Lagging	-5.548
C9	0.9999	Leading	1.980	C61	0.9989	Lagging	-5.513
C11	0.9949	Lagging	-11.626	C63	0.9989	Lagging	-5.472
C13	0.9827	Lagging	-21.650	C65	0.9988	Lagging	-5.529
C15	0.9989	Lagging	-5.483	C67	0.9988	Lagging	-5.522
C17	0.9985	Lagging	-6.323	C69	0.9989	Lagging	-5.459
C19	0.9984	Lagging	-6.494	C70	0.9989	Lagging	-5.474
C21	0.9987	Lagging	-5.848	C71	0.9988	Lagging	-5.611
C23	0.9959	Lagging	-10.402	C72	0.9989	Lagging	-5.490
C25	0.9969	Lagging	-9.124	C73	0.9989	Lagging	-5.428
C27	0.9968	Lagging	-9.197	C75	0.9988	Lagging	-5.629
C29	0.9989	Lagging	-5.339	C77	0.9988	Lagging	-5.755
C31	0.9961	Lagging	-10.141	C79	0.9989	Lagging	-5.428
C33	0.9982	Lagging	-6.969	C81	0.9987	Lagging	-5.792
C35	0.9989	Lagging	-5.482	C83	0.9987	Lagging	-5.789
C37	0.9989	Lagging	-5.463	C85	0.9988	Lagging	-5.653
C39	0.9989	Lagging	-5.483	C87	0.9989	Lagging	-5.295
C41	0.9989	Lagging	-5.482	C88	0.9988	Lagging	-5.620
C43	0.9988	Lagging	-5.637	C89	0.9986	Lagging	-6.117
C45	0.9989	Lagging	-5.497	C-C5	0.9925	Lagging	-14.117
C47	0.9988	Lagging	-5.554	C-C10	0.9925	Lagging	-14.117
C49	0.9989	Lagging	-5.492	C-C25	0.9920	Lagging	-14.670

*The scheduled voltage for the POI (Viola 345 kV) was 1.00 p.u. for winter peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

Summary

The Power Factor Analysis shows that GEN-2012-023 has a power factor range of 0.9827 lagging (supplying) to 0.9978 leading (absorbing).



3.2 Study Project – GEN-2012-027

Approach

The study project (GEN-2012-027) was disabled and a generator was placed at the high side voltage bus. The generator was modeled with $P_{GEN} = 150.7$ MW, $Q_{Min} = -9999$ Mvar, and $Q_{Max} = 9999$ Mvar. All buses and transformers connected from the study project's high side voltage bus to the generator were disabled. The pre-project voltage at the POI (Shidler 138 kV Bus – Bus 510403) for the summer peak conditions was 1.0015 p.u. and for the winter peak conditions was 1.0072 p.u.. Therefore, the scheduled voltage for the POI was set to 1.0015 p.u. for summer peak conditions and 1.0072 p.u. for winter peak conditions.

Results

The power factor was calculated for summer and winter peak conditions. Tables 3-3 and 3-4 show the power factor results for GEN-2012-027 for summer and winter peak conditions, respectively. Note that a positive Q (Mvar) output illustrates that the generator is absorbing reactive power from the system, implying a leading power factor; a negative Q (Mvar) illustrates that the generator is supplying reactive power to the system, implying a lagging power factor.

**Table 3-3
Power Factor Analysis: GEN-2012-027 ($P_{GEN} = 150.7$ MW)***

Power Factor Analysis: Summer Peak Conditions							
Power Factor Analysis: GEN-2012-027 ($P_{GEN} = 150.7$ MW)							
Case	Summer Peak			Case	Summer Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	1.0000	Lagging	-0.089	C51	1.0000	Leading	0.978
C1	1.0000	Leading	0.488	C53	0.9994	Lagging	-5.239
C3	0.9999	Lagging	-1.930	C55	1.0000	Lagging	-0.378
C5	1.0000	Lagging	-0.807	C57	0.9995	Lagging	-4.874
C7	1.0000	Lagging	-0.671	C59	0.9998	Leading	2.962
C9	1.0000	Lagging	-0.077	C61	0.9992	Leading	6.035
C11	1.0000	Lagging	-0.097	C63	1.0000	Lagging	-0.081
C13	1.0000	Leading	0.896	C65	1.0000	Lagging	-0.211
C15	1.0000	Lagging	-0.089	C67	1.0000	Lagging	-0.273
C17	0.9943	Lagging	-16.216	C69	1.0000	Lagging	-0.282
C19	1.0000	Lagging	-0.136	C70	1.0000	Lagging	-0.181
C21	1.0000	Lagging	-1.161	C71	1.0000	Leading	1.334
C23	1.0000	Leading	0.051	C72	1.0000	Lagging	-0.114
C25	1.0000	Leading	0.289	C73	1.0000	Lagging	-0.891
C27	1.0000	Lagging	-0.715	C75	0.9998	Leading	2.775
C29	1.0000	Lagging	-0.136	C77	0.9999	Lagging	-1.619
C31	1.0000	Leading	0.546	C79	1.0000	Lagging	-0.490
C33	1.0000	Lagging	-0.689	C81	0.9997	Leading	3.694
C35	0.9933	Leading	17.532	C83	0.9997	Lagging	-3.749
C37	0.9976	Lagging	-10.379	C85	1.0000	Lagging	-0.242
C39	1.0000	Lagging	-0.089	C87	1.0000	Leading	0.123
C41	0.9965	Lagging	-12.724	C88	0.9999	Lagging	-2.120
C43	0.9993	Lagging	-5.502	C89	1.0000	Leading	0.064
C45	0.9996	Lagging	-4.428	C-C5	1.0000	Leading	0.274
C47	0.9995	Leading	4.894	C-C10	1.0000	Leading	0.274
C49	1.0000	Leading	0.978	C-C25	1.0000	Leading	0.370

*The scheduled voltage for the POI (Shidler 138 kV) was 1.0015 p.u. for summer peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

Table 3-4
Power Factor Analysis: GEN-2012-027 ($P_{GEN} = 150.7$ MW)*

Power Factor Analysis: Winter Peak Conditions							
Power Factor Analysis: GEN-2012-027 ($P_{GEN} = 150.7$ MW)							
Case	Winter Peak			Case	Winter Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9996	Leading	4.175	C51	0.9995	Leading	4.966
C1	0.9996	Leading	4.335	C53	1.0000	Lagging	-0.523
C3	0.9998	Leading	2.730	C55	0.9998	Leading	2.750
C5	0.9997	Leading	3.533	C57	1.0000	Leading	0.771
C7	0.9997	Leading	3.757	C59	0.9986	Leading	8.084
C9	0.9996	Leading	4.000	C61	0.9979	Leading	9.688
C11	0.9996	Leading	4.016	C63	0.9998	Leading	3.055
C13	0.9996	Leading	4.177	C65	0.9996	Leading	4.058
C15	0.9996	Leading	4.175	C67	0.9996	Leading	4.016
C17	0.9980	Lagging	-9.604	C69	0.9997	Leading	3.874
C19	0.9997	Leading	3.985	C70	0.9996	Leading	4.120
C21	0.9999	Leading	2.380	C71	0.9994	Leading	5.340
C23	0.9997	Leading	3.563	C72	0.9996	Leading	4.191
C25	0.9997	Leading	3.701	C73	0.9998	Leading	3.008
C27	0.9997	Leading	3.610	C75	0.9993	Leading	5.674
C29	0.9996	Leading	4.136	C77	1.0000	Leading	0.762
C31	0.9996	Leading	4.234	C79	0.9995	Leading	4.646
C33	0.9997	Leading	3.707	C81	0.9981	Leading	9.199
C35	0.9892	Leading	22.285	C83	1.0000	Leading	0.167
C37	0.9999	Lagging	-2.295	C85	0.9996	Leading	3.998
C39	0.9996	Leading	4.175	C87	0.9996	Leading	4.127
C41	0.9994	Lagging	-5.205	C88	0.9998	Lagging	-2.772
C43	0.9983	Lagging	-8.724	C89	0.9997	Leading	3.880
C45	1.0000	Leading	0.892	C-C5	0.9996	Leading	4.167
C47	0.9994	Leading	5.332	C-C10	0.9996	Leading	4.167
C49	0.9995	Leading	4.966	C-C25	0.9996	Leading	4.170

*The scheduled voltage for the POI (Shidler 138 kV) was 1.0072 p.u. for winter peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

Summary

The Power Factor Analysis shows that GEN-2012-027 has a power factor range of 0.9943 lagging (supplying) to 0.9892 leading (absorbing).

3.3 Study Project – GEN-2012-032

Approach

The study project (GEN-2012-032) was disabled and a generator was placed at the study project's high side bus. The generator was modeled with $P_{GEN} = 300$ MW, $Q_{Min} = -9999$ Mvar, and $Q_{Max} = 9999$ Mvar. All buses and transformers connected from the study project's high side bus to the generator were disabled. The pre-project voltage at the POI (Tap on the Rose Hill to Sooner 345 kV line – Bus 562299) for the summer peak conditions was 1.002 p.u. and for the winter peak conditions was 0.9865 p.u.. Therefore, the scheduled voltage for the POI was set to 1.002 p.u. for summer peak conditions and 1.00 p.u. for winter peak conditions.

Results

The power factor was calculated for summer and winter peak conditions. Tables 3-5 and 3-6 show the power factor results for GEN-2012-032 for summer and winter peak conditions, respectively. Note that a positive Q (Mvar) output illustrates that the generator is absorbing reactive power from the system, implying a leading power factor; a negative Q (Mvar) illustrates that the generator is supplying reactive power to the system, implying a lagging power factor.

Table 3-5
Power Factor Analysis: GEN-2012-032 (P_{GEN} = 300 MW)*

Power Factor Analysis: Summer Peak Conditions							
Power Factor Analysis: GEN-2012-032 (P _{GEN} = 300 MW)							
Case	Summer Peak			Case	Summer Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9759	Leading	67.065	C51	0.9759	Leading	67.020
C1	0.9819	Leading	57.868	C53	0.9761	Leading	66.777
C3	0.9777	Leading	64.370	C55	0.9759	Leading	67.110
C5	0.9784	Leading	63.353	C57	0.9759	Leading	67.037
C7	0.9775	Leading	64.710	C59	0.9759	Leading	67.082
C9	0.9889	Leading	45.176	C61	0.9759	Leading	67.144
C11	0.9810	Leading	59.361	C63	0.9759	Leading	67.073
C13	0.9881	Leading	46.615	C65	0.9759	Leading	67.066
C15	0.9759	Leading	67.065	C67	0.9759	Leading	67.067
C17	0.9811	Leading	59.121	C69	0.9759	Leading	67.066
C19	0.9762	Leading	66.587	C70	0.9759	Leading	67.073
C21	0.9759	Leading	67.012	C71	0.9760	Leading	66.866
C23	0.9999	Lagging	-3.753	C72	0.9759	Leading	67.053
C25	0.9985	Leading	16.315	C73	0.9759	Leading	67.087
C27	0.9743	Leading	69.337	C75	0.9763	Leading	66.526
C29	0.9830	Leading	56.067	C77	0.9771	Leading	65.380
C31	0.9920	Leading	38.142	C79	0.9758	Leading	67.159
C33	0.9812	Leading	58.984	C81	0.9761	Leading	66.747
C35	0.9759	Leading	67.128	C83	0.9749	Leading	68.454
C37	0.9759	Leading	67.114	C85	0.9766	Leading	66.047
C39	0.9759	Leading	67.065	C87	0.9708	Leading	74.137
C41	0.9759	Leading	67.082	C88	0.9759	Leading	67.108
C43	0.9762	Leading	66.576	C89	0.9789	Leading	62.597
C45	0.9760	Leading	66.942	C-C5	0.9979	Leading	19.272
C47	0.9762	Leading	66.655	C-C10	0.9979	Leading	19.272
C49	0.9759	Leading	67.020	C-C25	0.9993	Leading	10.995

*The scheduled voltage for the POI (Rose Hill - Sooner 345 kV) was 1.002 p.u. for summer peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

**Table 3-6
Power Factor Analysis: GEN-2012-032 ($P_{GEN} = 300$ MW)***

Power Factor Analysis: Winter Peak Conditions							
Power Factor Analysis: GEN-2012-032 ($P_{GEN} = 300$ MW)							
Case	Winter Peak			Case	Winter Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9944	Lagging	-31.937	C51	0.9943	Lagging	-32.027
C1	0.9848	Lagging	-52.974	C53	0.9943	Lagging	-32.260
C3	0.9911	Lagging	-40.355	C55	0.9944	Lagging	-31.882
C5	0.9902	Lagging	-42.407	C57	0.9943	Lagging	-32.046
C7	0.9906	Lagging	-41.345	C59	0.9943	Lagging	-32.228
C9	0.9737	Lagging	-70.259	C61	0.9944	Lagging	-31.867
C11	0.9877	Lagging	-47.407	C63	0.9944	Lagging	-31.910
C13	0.9746	Lagging	-68.940	C65	0.9944	Lagging	-31.940
C15	0.9944	Lagging	-31.937	C67	0.9944	Lagging	-31.940
C17	0.9931	Lagging	-35.382	C69	0.9944	Lagging	-31.949
C19	0.9939	Lagging	-33.158	C70	0.9944	Lagging	-31.968
C21	0.9948	Lagging	-30.634	C71	0.9944	Lagging	-31.969
C23	0.9427	Lagging	-106.150	C72	0.9944	Lagging	-31.932
C25	0.9547	Lagging	-93.516	C73	0.9944	Lagging	-31.936
C27	0.9714	Leading	73.330	C75	0.9939	Lagging	-33.251
C29	0.9944	Lagging	-31.895	C77	0.9941	Lagging	-32.604
C31	0.9671	Lagging	-78.910	C79	0.9946	Lagging	-31.445
C33	0.9865	Lagging	-49.717	C81	0.9932	Lagging	-35.156
C35	0.9944	Lagging	-31.903	C83	0.9940	Lagging	-33.047
C37	0.9944	Lagging	-31.851	C85	0.9939	Lagging	-33.281
C39	0.9944	Lagging	-31.937	C87	0.9912	Lagging	-40.142
C41	0.9944	Lagging	-31.925	C88	0.9939	Lagging	-33.340
C43	0.9942	Lagging	-32.578	C89	0.9990	Lagging	-13.481
C45	0.9943	Lagging	-32.057	C-C5	0.9480	Lagging	-100.704
C47	0.9942	Lagging	-32.345	C-C10	0.9480	Lagging	-100.704
C49	0.9943	Lagging	-32.027	C-C25	0.9398	Lagging	-109.113

*The scheduled voltage for the POI (Rose Hill - Sooner 345 kV) was 1.00 p.u. for winter peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

Summary

The Power Factor Analysis shows that GEN-2012-032 has a power factor range of 0.9398 lagging (supplying) to 0.9708 leading (absorbing).

3.4 Study Project – GEN-2012-033

Approach

The study project (GEN-2012-033) was disabled and a generator was placed at the study project's high side voltage bus. The generator was modeled with $P_{GEN} = 98.8$ MW, $Q_{Min} = -9999$ Mvar, and $Q_{Max} = 9999$ Mvar. All buses and transformers connected from the study project's high side voltage bus to the generator were disabled. The pre-project voltage at the POI (Tap on the Bunch Creek to South 4th 138 kV line – Bus 562303) for the summer peak conditions was 1.0051 p.u. and for the winter peak conditions was 1.01 p.u.. Therefore, the scheduled voltage for the POI was set to 1.0051 p.u. for summer peak conditions and 1.01 p.u. for winter peak conditions.

Results

The power factor was calculated for summer and winter peak conditions. Tables 3-7 and 3-8 show the power factor results for GEN-2012-033 for summer and winter peak conditions, respectively. Note that a positive Q (Mvar) output illustrates that the generator is absorbing reactive power from the system, implying a leading power factor; a negative Q (Mvar) illustrates that the generator is supplying reactive power to the system, implying a lagging power factor.

Table 3-7
Power Factor Analysis: GEN-2012-033 ($P_{GEN} = 98.8$ MW)*

Power Factor Analysis: Summer Peak Conditions							
Power Factor Analysis: GEN-2012-033 ($P_{GEN} = 98.8$ MW)							
Case	Summer Peak			Case	Summer Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9978	Leading	6.534	C51	0.9974	Leading	7.200
C1	0.9985	Leading	5.407	C53	0.9996	Leading	2.762
C3	0.9998	Lagging	-2.048	C55	0.9995	Leading	3.114
C5	0.9983	Leading	5.840	C57	0.9981	Leading	6.109
C7	0.9980	Leading	6.261	C59	0.9988	Leading	4.823
C9	0.9983	Leading	5.798	C61	0.9985	Leading	5.343
C11	0.9988	Leading	4.873	C63	0.9996	Leading	2.932
C13	0.9996	Lagging	-2.810	C65	0.9887	Leading	14.994
C15	0.9978	Leading	6.534	C67	0.9939	Leading	10.949
C17	0.9988	Leading	4.921	C69	1.0000	Lagging	-0.222
C19	0.9983	Leading	5.729	C70	0.9994	Leading	3.399
C21	0.9988	Leading	4.942	C71	0.9854	Lagging	-17.055
C23	0.9986	Leading	5.215	C72	0.9998	Leading	1.789
C25	0.9989	Leading	4.612	C73	0.9999	Lagging	-1.209
C27	0.9972	Leading	7.374	C75	0.9965	Leading	8.316
C29	0.9980	Leading	6.317	C77	0.9981	Leading	6.034
C31	0.9980	Leading	6.319	C79	0.9982	Leading	5.905
C33	0.9980	Leading	6.188	C81	0.9968	Leading	7.867
C35	0.9972	Leading	7.353	C83	0.9990	Leading	4.453
C37	0.9970	Leading	7.678	C85	0.9979	Leading	6.434
C39	0.9978	Leading	6.534	C87	0.9973	Leading	7.282
C41	0.9970	Leading	7.651	C88	0.9986	Leading	5.254
C43	0.9991	Leading	4.086	C89	0.9978	Leading	6.617
C45	0.9979	Leading	6.386	C-C5	0.9971	Leading	7.549
C47	0.9981	Leading	6.136	C-C10	0.9971	Leading	7.549
C49	0.9974	Leading	7.200	C-C25	0.9974	Leading	7.156

*The scheduled voltage for the POI (Bunch Creek - South 4th 138 kV) was 1.0051 p.u. for summer peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.



Table 3-8
Power Factor Analysis: GEN-2012-033 ($P_{GEN} = 98.8$ MW)*

Power Factor Analysis: Winter Peak Conditions							
Power Factor Analysis: GEN-2012-033 ($P_{GEN} = 98.8$ MW)							
Case	Winter Peak			Case	Winter Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9959	Leading	8.979	C51	0.9955	Leading	9.434
C1	0.9964	Leading	8.378	C53	0.9982	Leading	5.862
C3	0.9992	Leading	3.943	C55	0.9961	Leading	8.727
C5	0.9969	Leading	7.769	C57	0.9964	Leading	8.398
C7	0.9966	Leading	8.165	C59	0.9980	Leading	6.304
C9	0.9953	Leading	9.606	C61	0.9968	Leading	7.903
C11	0.9978	Leading	6.602	C63	0.9966	Leading	8.186
C13	0.9999	Lagging	-1.580	C65	0.9875	Leading	15.785
C15	0.9959	Leading	8.979	C67	0.9915	Leading	12.987
C17	0.9967	Leading	8.051	C69	0.9983	Leading	5.768
C19	0.9980	Leading	6.181	C70	0.9956	Leading	9.305
C21	0.9986	Leading	5.266	C71	0.9992	Leading	3.926
C23	0.9981	Leading	6.160	C72	0.9975	Leading	7.031
C25	0.9985	Leading	5.376	C73	0.9997	Leading	2.340
C27	0.9961	Leading	8.805	C75	0.9949	Leading	10.053
C29	0.9961	Leading	8.790	C77	0.9978	Leading	6.531
C31	0.9967	Leading	8.014	C79	0.9965	Leading	8.316
C33	0.9964	Leading	8.370	C81	0.9943	Leading	10.612
C35	0.9957	Leading	9.159	C83	0.9981	Leading	6.058
C37	0.9951	Leading	9.791	C85	0.9960	Leading	8.820
C39	0.9959	Leading	8.979	C87	0.9960	Leading	8.893
C41	0.9955	Leading	9.424	C88	0.9996	Leading	2.884
C43	0.9985	Leading	5.344	C89	0.9962	Leading	8.680
C45	0.9961	Leading	8.785	C-C5	0.9958	Leading	9.033
C47	0.9966	Leading	8.160	C-C10	0.9958	Leading	9.033
C49	0.9955	Leading	9.434	C-C25	0.9962	Leading	8.598

*The scheduled voltage for the POI (Bunch Creek - South 4th 138 kV) was 1.01 p.u. for winter peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

Summary

The Power Factor Analysis shows that GEN-2012-033 has a power factor range of 0.9854 lagging (supplying) to 0.9875 leading (absorbing).



3.5 Study Project – GEN-2012-040

Approach

The study project (GEN-2012-040) was disabled and a generator was placed at the study project's high side voltage bus. The generator was modeled with $P_{GEN} = 76.5$ MW, $Q_{Min} = -9999$ Mvar, and $Q_{Max} = 9999$ Mvar. All buses and transformers connected from the study project's high side voltage bus to the generator were disabled. The pre-project voltage at the POI (Chilocco 138 kV bus – Bus 521198) for the summer peak conditions was 1.0072 p.u. and for the winter peak conditions was 1.0108 p.u.. Therefore, the scheduled voltage for the POI was set to 1.0072 p.u. for summer peak conditions and 1.0108 p.u. for winter peak conditions.

Results

The power factor was calculated for summer and winter peak conditions. Tables 3-9 and 3-10 show the power factor results for GEN-2012-040 for summer and winter peak conditions, respectively. Note that a positive Q (Mvar) output illustrates that the generator is absorbing reactive power from the system, implying a leading power factor; a negative Q (Mvar) illustrates that the generator is supplying reactive power to the system, implying a lagging power factor.

Table 3-9
Power Factor Analysis: GEN-2012-040 ($P_{GEN} = 76.5$ MW)*

Power Factor Analysis: Summer Peak Conditions							
Power Factor Analysis: GEN-2012-040 ($P_{GEN} = 76.5$ MW)							
Case	Summer Peak			Case	Summer Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9979	Leading	4.920	C51	0.9989	Leading	3.554
C1	0.9972	Leading	5.745	C53	1.0000	Lagging	-0.061
C3	0.9998	Leading	1.537	C55	0.9979	Leading	4.982
C5	0.9979	Leading	4.916	C57	0.9982	Leading	4.613
C7	0.9979	Leading	4.988	C59	0.9987	Leading	3.862
C9	0.9989	Leading	3.576	C61	0.9980	Leading	4.891
C11	0.9986	Leading	4.030	C63	0.9979	Leading	5.018
C13	0.9963	Leading	6.635	C65	0.9980	Leading	4.876
C15	0.9979	Leading	4.920	C67	0.9980	Leading	4.839
C17	0.9986	Leading	4.006	C69	0.9981	Leading	4.718
C19	0.9980	Leading	4.871	C70	0.9980	Leading	4.811
C21	0.9981	Leading	4.776	C71	0.9976	Leading	5.332
C23	0.9977	Leading	5.221	C72	0.9980	Leading	4.852
C25	0.9971	Leading	5.790	C73	0.9983	Leading	4.426
C27	0.9991	Leading	3.226	C75	0.9916	Lagging	-9.949
C29	0.9982	Leading	4.579	C77	0.9659	Leading	20.518
C31	0.9984	Leading	4.272	C79	0.9973	Leading	5.585
C33	0.9980	Leading	4.856	C81	0.9932	Lagging	-8.982
C35	0.9970	Leading	5.954	C83	0.9997	Lagging	-1.882
C37	0.9969	Leading	6.007	C85	0.9986	Leading	4.103
C39	0.9979	Leading	4.920	C87	0.9978	Leading	5.093
C41	0.9967	Leading	6.271	C88	0.9984	Leading	4.340
C43	0.9993	Leading	2.810	C89	0.9985	Leading	4.196
C45	0.9981	Leading	4.749	C-C5	0.9986	Leading	4.051
C47	0.9982	Leading	4.556	C-C10	0.9986	Leading	4.051
C49	0.9989	Leading	3.554	C-C25	0.9986	Leading	4.065

*The scheduled voltage for the POI (Chilocco 138 kV) was 1.0072 p.u. for summer peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

Table 3-10
Power Factor Analysis: GEN-2012-040 ($P_{GEN} = 76.5$ MW)*

Power Factor Analysis: Winter Peak Conditions							
Power Factor Analysis: GEN-2012-040 ($P_{GEN} = 76.5$ MW)							
Case	Winter Peak			Case	Winter Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9966	Leading	6.336	C51	0.9978	Leading	5.109
C1	0.9969	Leading	6.034	C53	0.9992	Leading	3.031
C3	1.0000	Leading	0.620	C55	0.9973	Leading	5.582
C5	0.9978	Leading	5.092	C57	0.9970	Leading	5.910
C7	0.9977	Leading	5.167	C59	0.9983	Leading	4.499
C9	0.9995	Leading	2.402	C61	0.9968	Leading	6.175
C11	0.9992	Leading	3.125	C63	0.9972	Leading	5.721
C13	0.9965	Leading	6.455	C65	0.9967	Leading	6.268
C15	0.9966	Leading	6.336	C67	0.9967	Leading	6.247
C17	0.9976	Leading	5.322	C69	0.9968	Leading	6.108
C19	0.9968	Leading	6.137	C70	0.9966	Leading	6.284
C21	0.9969	Leading	6.005	C71	0.9957	Leading	7.099
C23	0.9994	Leading	2.683	C72	0.9966	Leading	6.357
C25	0.9977	Leading	5.222	C73	0.9973	Leading	5.583
C27	0.9999	Leading	1.104	C75	0.9993	Lagging	-2.889
C29	0.9970	Leading	5.942	C77	0.9802	Leading	15.440
C31	0.9999	Leading	1.052	C79	0.9871	Leading	12.420
C33	0.9979	Leading	4.963	C81	0.9824	Lagging	-14.530
C35	0.9960	Leading	6.835	C83	0.9964	Leading	6.493
C37	0.9957	Leading	7.127	C85	0.9976	Leading	5.290
C39	0.9966	Leading	6.336	C87	0.9990	Leading	3.416
C41	0.9957	Leading	7.095	C88	0.9991	Leading	3.323
C43	0.9991	Leading	3.226	C89	1.0000	Leading	0.734
C45	0.9968	Leading	6.153	C-C5	1.0000	Leading	0.209
C47	0.9974	Leading	5.564	C-C10	1.0000	Leading	0.209
C49	0.9978	Leading	5.109	C-C25	0.9998	Leading	1.607

*The scheduled voltage for the POI (Chilocco 138 kV) was 1.0108 p.u. for winter peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

Summary

The Power Factor Analysis shows that GEN-2012-040 has a power factor range of 0.9824 lagging (supplying) to 0.9659 leading (absorbing).

3.6 Study Project – GEN-2012-041

Approach

The study project (GEN-2012-041) was disabled and a generator was placed at the study project's high side voltage bus. The generator was modeled with $P_{GEN} = 85.27$ MW for summer peak conditions and 121.48 MW for winter peak conditions, $Q_{Min} = -9999$ Mvar, and $Q_{Max} = 9999$ Mvar. All buses and transformers connected from the study project's high side voltage bus to the generator were disabled. The pre-project voltage at the POI (Tap on the Rose Hill to Sooner 345 kV line – Bus 562318) for the summer peak conditions was 1.0055 p.u. and for the winter peak conditions was 0.9939 p.u.. Therefore, the scheduled voltage for the POI was set to 1.0055 p.u. for summer peak conditions and 1.00 p.u. for winter peak conditions.

Results

The power factor was calculated for summer and winter peak conditions. Tables 3-11 and 3-12 show the power factor results for GEN-2012-041 for summer peak and winter peak conditions, respectively. Note that a positive Q (Mvar) output illustrates that the generator is absorbing reactive power from the system, implying a leading power factor; a negative Q (Mvar) illustrates that the generator is supplying reactive power to the system, implying a lagging power factor.

Table 3-11
Power Factor Analysis: GEN-2012-041 (Summer P_{GEN} = 85.27)*

Power Factor Analysis							
Power Factor Analysis: GEN-2012-041 (Summer P _{GEN} = 85.27 MW)							
Case	Summer Peak			Case	Summer Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9916	Lagging	-11.133	C51	0.9915	Lagging	-11.169
C1	0.9725	Lagging	-20.422	C53	0.9914	Lagging	-11.288
C3	0.9906	Lagging	-11.803	C55	0.9916	Lagging	-11.090
C5	0.9860	Lagging	-14.419	C57	0.9915	Lagging	-11.162
C7	0.9880	Lagging	-13.304	C59	0.9916	Lagging	-11.152
C9	0.9470	Lagging	-28.918	C61	0.9917	Lagging	-11.067
C11	0.9800	Lagging	-17.304	C63	0.9916	Lagging	-11.124
C13	0.9237	Lagging	-35.355	C65	0.9916	Lagging	-11.128
C15	0.9916	Lagging	-11.133	C67	0.9916	Lagging	-11.127
C17	0.9823	Lagging	-16.237	C69	0.9916	Lagging	-11.131
C19	0.9906	Lagging	-11.769	C70	0.9916	Lagging	-11.124
C21	0.9923	Lagging	-10.631	C71	0.9914	Lagging	-11.268
C23	0.8827	Leading	45.394	C72	0.9916	Lagging	-11.139
C25	0.8138	Lagging	-60.888	C73	0.9916	Lagging	-11.113
C27	0.9911	Lagging	-11.439	C75	0.9907	Lagging	-11.725
C29	0.9728	Lagging	-20.314	C77	0.9897	Lagging	-12.305
C31	0.9199	Lagging	-36.340	C79	0.9917	Lagging	-11.083
C33	0.9774	Lagging	-18.427	C81	0.9909	Lagging	-11.612
C35	0.9917	Lagging	-11.078	C83	0.9936	Lagging	-9.694
C37	0.9916	Lagging	-11.105	C85	0.9903	Lagging	-11.987
C39	0.9916	Lagging	-11.133	C87	0.9982	Lagging	-5.090
C41	0.9916	Lagging	-11.115	C88	0.9914	Lagging	-11.247
C43	0.9912	Lagging	-11.419	C89	0.9848	Lagging	-15.027
C45	0.9914	Lagging	-11.237	C-C5	0.8419	Lagging	-54.661
C47	0.9912	Lagging	-11.408	C-C10	0.8419	Lagging	-54.661
C49	0.9915	Lagging	-11.169	C-C25	0.8253	Lagging	-58.349

*The scheduled voltage for the POI (Tap Rose Hill - Sooner 345 kV) was 1.0055 p.u. for summer peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

Table 3-12
Power Factor Analysis: GEN-2012-041 (Winter P_{GEN} = 121.48 MW)*

Power Factor Analysis							
Power Factor Analysis: GEN-2012-041 (Winter P _{GEN} = 121.48 MW)							
Case	Winter Peak			Case	Winter Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.8908	Lagging	-61.976	C51	0.8906	Lagging	-62.050
C1	0.8273	Lagging	-82.490	C53	0.8899	Lagging	-62.275
C3	0.8754	Lagging	-67.097	C55	0.8910	Lagging	-61.915
C5	0.8623	Lagging	-71.328	C57	0.8905	Lagging	-62.081
C7	0.8653	Lagging	-70.370	C59	0.8899	Lagging	-62.282
C9	0.7855	Lagging	-95.724	C61	0.8909	Lagging	-61.917
C11	0.8516	Lagging	-74.790	C63	0.8909	Lagging	-61.942
C13	0.7745	Lagging	-99.226	C65	0.8908	Lagging	-61.973
C15	0.8908	Lagging	-61.976	C67	0.8908	Lagging	-61.974
C17	0.8885	Lagging	-62.727	C69	0.8907	Lagging	-61.987
C19	0.8869	Lagging	-63.267	C70	0.8907	Lagging	-62.008
C21	0.8976	Lagging	-59.646	C71	0.8908	Lagging	-61.982
C23	0.8457	Leading	76.646	C72	0.8908	Lagging	-61.969
C25	0.6497	Lagging	-142.133	C73	0.8908	Lagging	-61.973
C27	0.9909	Leading	16.486	C75	0.8869	Lagging	-63.260
C29	0.8818	Lagging	-64.986	C77	0.8900	Lagging	-62.220
C31	0.7606	Lagging	-103.704	C79	0.8920	Lagging	-61.564
C33	0.8378	Lagging	-79.161	C81	0.8813	Lagging	-65.136
C35	0.8908	Lagging	-61.951	C83	0.8888	Lagging	-62.652
C37	0.8910	Lagging	-61.911	C85	0.8874	Lagging	-63.118
C39	0.8908	Lagging	-61.976	C87	0.8699	Lagging	-68.891
C41	0.8908	Lagging	-61.953	C88	0.8854	Lagging	-63.789
C43	0.8897	Lagging	-62.339	C89	0.9337	Lagging	-46.570
C45	0.8905	Lagging	-62.082	C-C5	0.7062	Lagging	-121.807
C47	0.8900	Lagging	-62.224	C-C10	0.7062	Lagging	-121.807
C49	0.8906	Lagging	-62.050	C-C25	0.6837	Lagging	-129.669

*The scheduled voltage for the POI (Tap Rose Hill - Sooner 345 kV) was 1.00 p.u. for winter peak conditions.

**A positive Q (Mvar) output illustrates the generator is absorbing Mvars from the system, which implies a leading power factor; negative Q (Mvar) output shows the generator is supplying Mvars to the system implying a lagging power factor.

Summary

The Power Factor Analysis shows that GEN-2012-041 has a power factor range of 0.6497 lagging (supplying) to 0.8457 leading (absorbing).

3.7 Overall Summary

The Power Factor Analysis shows that:

- GEN-2012-023 has a power factor range of 0.9827 lagging (supplying) to 0.9978 leading (absorbing).
- GEN-2012-027 has a power factor range of 0.9943 lagging (supplying) to 0.9892 leading (absorbing).
- GEN-2012-032 has a power factor range of 0.9398 lagging (supplying) to 0.9708 leading (absorbing).
- GEN-2012-033 has a power factor range of 0.9854 lagging (supplying) to 0.9875 leading (absorbing).
- GEN-2012-040 has a power factor range of 0.9824 lagging (supplying) to 0.9659 leading (absorbing).
- GEN-2012-041 has a power factor range of 0.6497 lagging (supplying) to 0.8457 leading (absorbing).

SECTION 4: STABILITY ANALYSIS

The objective of the stability analysis was to determine the impacts of the new wind farms on the stability and voltage recovery on the SPP transmission system. If problems with stability or voltage recovery were identified the need for reactive compensation or system upgrades were investigated.

Approach

Both winter peak and summer peak power flows provided by SPP were examined prior to the Stability Analysis to ensure they contained the proposed study projects (GEN-2012-023, GEN-2012-027, GEN-2012-032, GEN-2012-033, GEN-2012-040 and GEN-2012-041) modeled at 100% of the nameplate rating and any previously queued projects listed in Table 2-2. There was no suspect power flow data in the study area. The dynamic datasets were also verified and stable initial system conditions (i.e., “flat lines”) were achieved. Three-phase and single line-to-ground faults listed in Table 2-3 were examined. Single-phase fault impedances were calculated to result in a voltage of approximately 60% of the pre-fault voltage. Refer to Table 3-1 for a list of the calculated single-phase fault impedances used for this analysis.



Table 4-1
Calculated Single-Phase Fault Impedances

Ref. No.	Casename	Single-Phase Fault Impedance (MVA)		Ref. No.	Casename	Single-Phase Fault Impedance (MVA)	
		Summer Peak	Winter Peak			Summer Peak	Winter Peak
2	FLT02-1PH	-4437.5	-4031.3	44	FLT44-1PH	-1500.0	-1500.0
4	FLT04-1PH	-4437.5	-4031.3	46	FLT46-1PH	-1500.0	-1500.0
6	FLT06-1PH	-9312.5	-6875.0	48	FLT48-1PH	-1500.0	-1500.0
8	FLT08-1PH	-9312.5	-6875.0	50	FLT50-1PH	-2406.3	-2609.4
10	FLT10-1PH	-9312.5	-6875.0	52	FLT52-1PH	-2406.3	-2609.4
12	FLT12-1PH	-9312.5	-6875.0	54	FLT54-1PH	-2406.3	-2609.4
14	FLT14-1PH	-4437.5	-4234.4	56	FLT56-1PH	-2406.3	-2609.4
16	FLT16-1PH	-4437.5	-4234.4	58	FLT58-1PH	-1500.0	-1500.0
18	FLT18-1PH	-8500.0	-8500.0	60	FLT60-1PH	-1500.0	-1500.0
20	FLT20-1PH	-8500.0	-8500.0	62	FLT62-1PH	-1500.0	-1500.0
22	FLT22-1PH	-8500.0	-8500.0	64	FLT64-1PH	-1625.0	-1562.5
24	FLT24-1PH	-4843.8	-4437.5	66	FLT66-1PH	-1625.0	-1562.5
26	FLT26-1PH	-4843.8	-4437.5	68	FLT68-1PH	-1375.0	-1375.0
28	FLT28-1PH	-4437.5	-4437.5	74	FLT74-1PH	-1625.0	-1562.5
30	FLT30-1PH	-6875.0	-6062.5	76	FLT76-1PH	-1250.0	-1187.5
32	FLT32-1PH	-6875.0	-6062.5	78	FLT78-1PH	-1250.0	-1187.5
34	FLT34-1PH	-6875.0	-6062.5	80	FLT80-1PH	-1437.5	-1437.5
36	FLT36-1PH	-1375.0	-1375.0	82	FLT82-1PH	-1437.5	-1437.5
38	FLT38-1PH	-1375.0	-1375.0	84	FLT84-1PH	-1250.0	-1125.0
40	FLT40-1PH	-1375.0	-1375.0	86	FLT86-1PH	-1250.0	-1125.0
42	FLT42-1PH	-1250.0	-1312.5				

Bus voltages and previously queued generation in the study area were monitored in addition to the bus voltages in the following areas:

- 520 AEPW
- 523 GRDA
- 524 OKGE
- 525 WFEC
- 540 GMO
- 541 KCPL

The results of the analysis determined if reactive compensation or system upgrades were required to obtain acceptable system performance. If additional reactive compensation was required, the size, type, and location were determined. The proposed reactive reinforcements would ensure the wind farm meets FERC Order 661A low voltage requirements and return the wind farm to its pre-disturbance operating voltage. If the results indicated the need for fast responding reactive support, dynamic support such as an SVC or STATCOM was investigated. If tripping of the prior queued projects was observed during the stability analysis (for under/over





voltage or under/over frequency) the simulations were re-ran with the prior queued project's voltage and frequency tripping disabled.

Results

Refer to Table 4-2 for a summary of the Stability Analysis results. The initial simulations were run for summer and winter peak conditions and all contingencies remained stable. The following figures are representative plots for a three phase fault with a 20 cycle reclose applied at the G12-041-Tap 345 kV bus with the loss of the G12-041-Tap to G12-032-Tap 345 kV line.

- Figure 3-1 shows the real power response for the study project's during winter peak conditions.
- Figure 3-2 shows the reactive power response for the study project's during winter peak conditions.
- Figure 3-3 shows the speed response for the study project's during winter peak conditions.
- Figure 3-4 shows the terminal bus voltage response for the study project's during winter peak conditions.
- Figure 3-5 shows the frequency response for the study project's during winter peak conditions.
- Figure 3-6 shows the voltage response at the POI for each study project.

Refer to Appendix B and Appendix C for a complete list of plots for all contingencies for summer peak and winter peak conditions, respectively.





Table 4-2
Stability Analysis Summary of Results

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
1	FLT01-3PH	Yes	Yes	Yes	Yes
2	FLT02-1PH	Yes	Yes	Yes	Yes
3	FLT03-3PH	Yes	Yes	Yes	Yes
4	FLT04-1PH	Yes	Yes	Yes	Yes
5	FLT05-3PH	Yes	Yes	Yes	Yes
6	FLT06-1PH	Yes	Yes	Yes	Yes
7	FLT07-3PH	Yes	Yes	Yes	Yes
8	FLT08-1PH	Yes	Yes	Yes	Yes
9	FLT09-3PH	Yes	Yes	Yes	Yes
10	FLT10-1PH	Yes	Yes	Yes	Yes
11	FLT11-3PH	Yes	Yes	Yes	Yes
12	FLT12-1PH	Yes	Yes	Yes	Yes
13	FLT13-3PH	Yes	Yes	Yes	Yes
14	FLT14-1PH	Yes	Yes	Yes	Yes
15	FLT15-3PH	Yes	Yes	Yes	Yes
16	FLT16-1PH	Yes	Yes	Yes	Yes
17	FLT17-3PH	Yes	Yes	Yes	Yes
18	FLT18-1PH	Yes	Yes	Yes	Yes
19	FLT19-3PH	Yes	Yes	Yes	Yes
20	FLT20-1PH	Yes	Yes	Yes	Yes
21	FLT21-3PH	Yes	Yes	Yes	Yes
22	FLT22-1PH	Yes	Yes	Yes	Yes
23	FLT23-3PH	Yes	Yes	Yes	Yes
24	FLT24-1PH	Yes	Yes	Yes	Yes
25	FLT25-3PH	Yes	Yes	Yes	Yes
26	FLT26-1PH	Yes	Yes	Yes	Yes





Table 4-2 (Continued)
Stability Analysis Summary of Results

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
27	FLT27-3PH	Yes	Yes	Yes	Yes
28	FLT28-1PH	Yes	Yes	Yes	Yes
29	FLT29-3PH	Yes	Yes	Yes	Yes
30	FLT30-1PH	Yes	Yes	Yes	Yes
31	FLT31-3PH	Yes	Yes	Yes	Yes
32	FLT32-1PH	Yes	Yes	Yes	Yes
33	FLT33-3PH	Yes	Yes	Yes	Yes
34	FLT34-1PH	Yes	Yes	Yes	Yes
35	FLT35-3PH	Yes	Yes	Yes	Yes
36	FLT36-1PH	Yes	Yes	Yes	Yes
37	FLT37-3PH	Yes	Yes	Yes	Yes
38	FLT38-1PH	Yes	Yes	Yes	Yes
39	FLT39-3PH	Yes	Yes	Yes	Yes
40	FLT40-1PH	Yes	Yes	Yes	Yes
41	FLT41-3PH	Yes	Yes	Yes	Yes
42	FLT42-1PH	Yes	Yes	Yes	Yes
43	FLT43-3PH	Yes	Yes	Yes	Yes
44	FLT44-1PH	Yes	Yes	Yes	Yes
45	FLT45-3PH	Yes	Yes	Yes	Yes
46	FLT46-1PH	Yes	Yes	Yes	Yes
47	FLT47-3PH	Yes	Yes	Yes	Yes
48	FLT48-1PH	Yes	Yes	Yes	Yes
49	FLT49-3PH	Yes	Yes	Yes	Yes
50	FLT50-1PH	Yes	Yes	Yes	Yes
51	FLT51-3PH	Yes	Yes	Yes	Yes
52	FLT52-1PH	Yes	Yes	Yes	Yes
53	FLT53-3PH	Yes	Yes	Yes	Yes





Table 4-2 (Continued)
Stability Analysis Summary of Results

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
54	FLT54-1PH	Yes	Yes	Yes	Yes
55	FLT55-3PH	Yes	Yes	Yes	Yes
56	FLT56-1PH	Yes	Yes	Yes	Yes
57	FLT57-3PH	Yes	Yes	Yes	Yes
58	FLT58-1PH	Yes	Yes	Yes	Yes
59	FLT59-3PH	Yes	Yes	Yes	Yes
60	FLT60-1PH	Yes	Yes	Yes	Yes
61	FLT61-3PH	Yes	Yes	Yes	Yes
62	FLT62-1PH	Yes	Yes	Yes	Yes
63	FLT63-3PH	Yes	Yes	Yes	Yes
64	FLT64-1PH	Yes	Yes	Yes	Yes
65	FLT65-3PH	Yes	Yes	Yes	Yes
66	FLT66-1PH	Yes	Yes	Yes	Yes
67	FLT67-3PH	Yes	Yes	Yes	Yes
68	FLT68-1PH	Yes	Yes	Yes	Yes
69	FLT69-3PH	Yes	Yes	Yes	Yes
70	FLT70-3PH	Yes	Yes	Yes	Yes
71	FLT71-3PH	Yes	Yes	Yes	Yes
72	FLT72-3PH	Yes	Yes	Yes	Yes
73	FLT73-3PH	Yes	Yes	Yes	Yes
74	FLT74-1PH	Yes	Yes	Yes	Yes
75	FLT75-3PH	Yes	Yes	Yes	Yes
76	FLT76-1PH	Yes	Yes	Yes	Yes
77	FLT77-3PH	Yes	Yes	Yes	Yes
78	FLT78-1PH	Yes	Yes	Yes	Yes
79	FLT79-3PH	Yes	Yes	Yes	Yes
80	FLT80-1PH	Yes	Yes	Yes	Yes





Table 4-2 (Continued)
Stability Analysis Summary of Results

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
81	FLT81-3PH	Yes	Yes	Yes	Yes
82	FLT82-1PH	Yes	Yes	Yes	Yes
83	FLT83-3PH	Yes	Yes	Yes	Yes
84	FLT84-1PH	Yes	Yes	Yes	Yes
85	FLT85-3PH	Yes	Yes	Yes	Yes
86	FLT86-1PH	Yes	Yes	Yes	Yes
87	FLT87-3PH	Yes	Yes	Yes	Yes
88	FLT88-3PH	Yes	Yes	Yes	Yes
89	FLT89-3PH	Yes	Yes	Yes	Yes
90	FLTC10-3PH	Yes	Yes	Yes	Yes
91	FLTC25-3PH	Yes	Yes	Yes	Yes
92	FLTC5-3PH	Yes	Yes	Yes	Yes



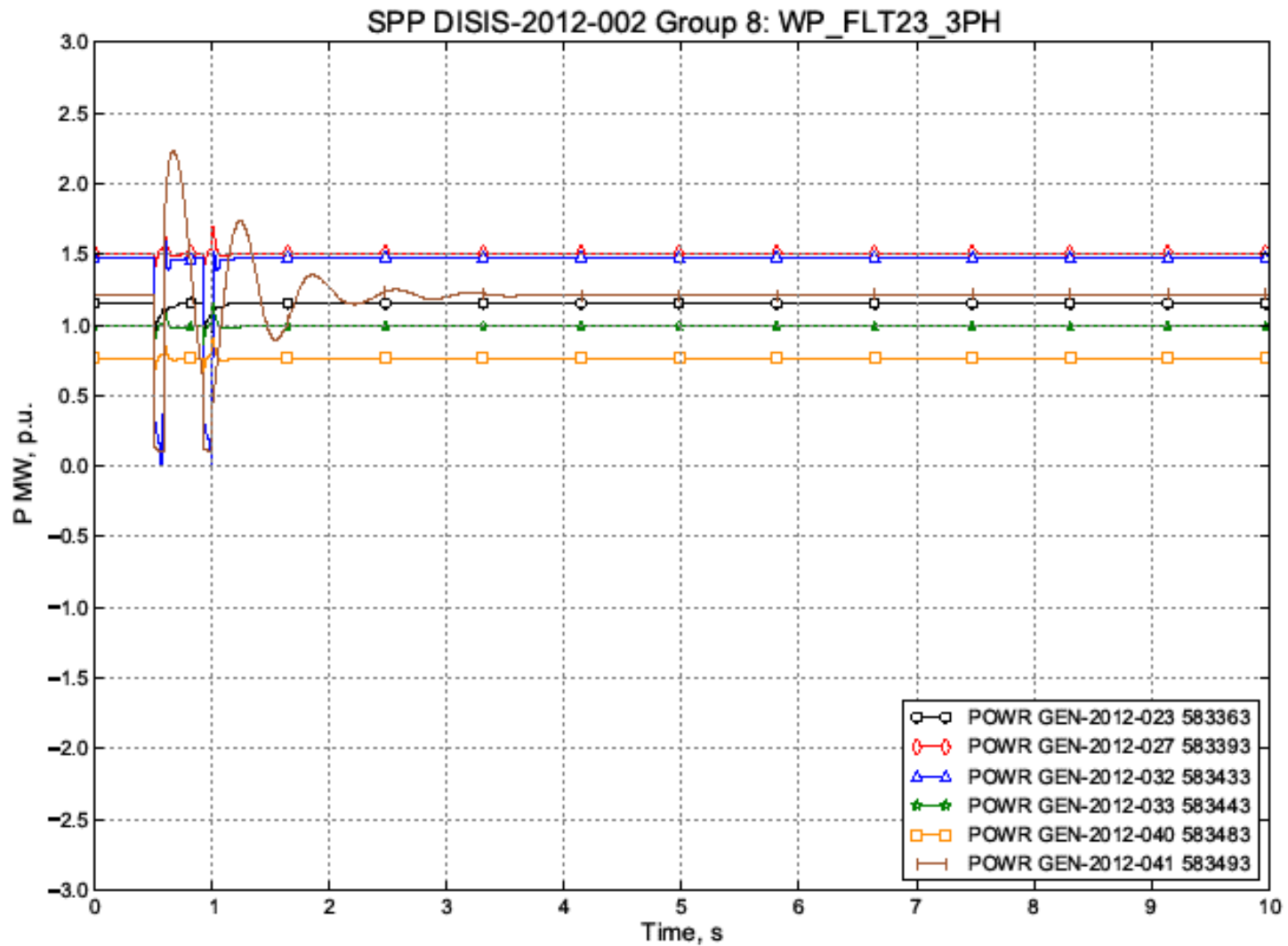


Figure 4-1. Real power response for the study projects during Contingency #23 (FLT23-3PH) for winter peak conditions.

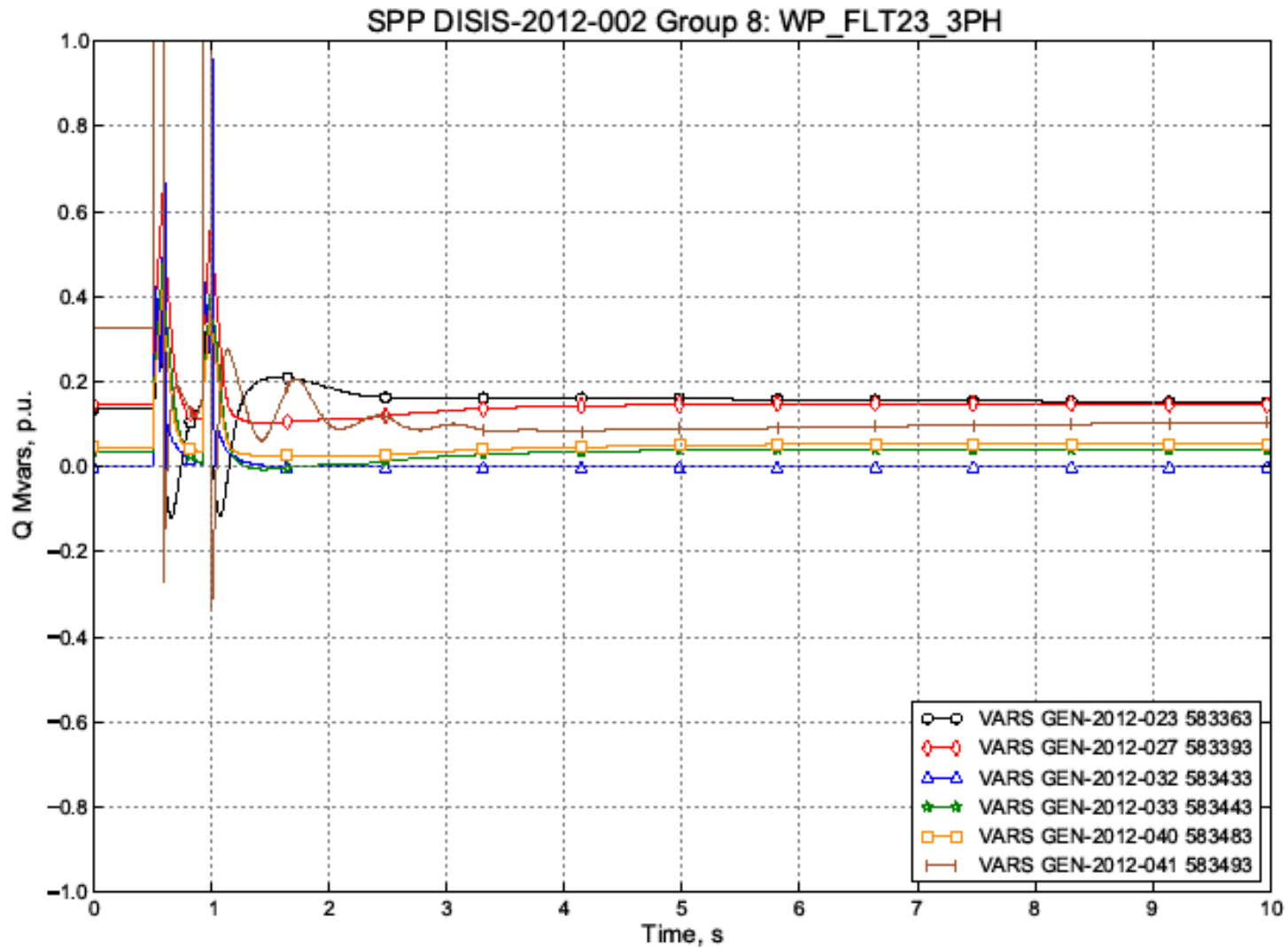


Figure 4-2. Reactive power response for the study projects during Contingency #23 (FLT23-3PH) for winter peak conditions.

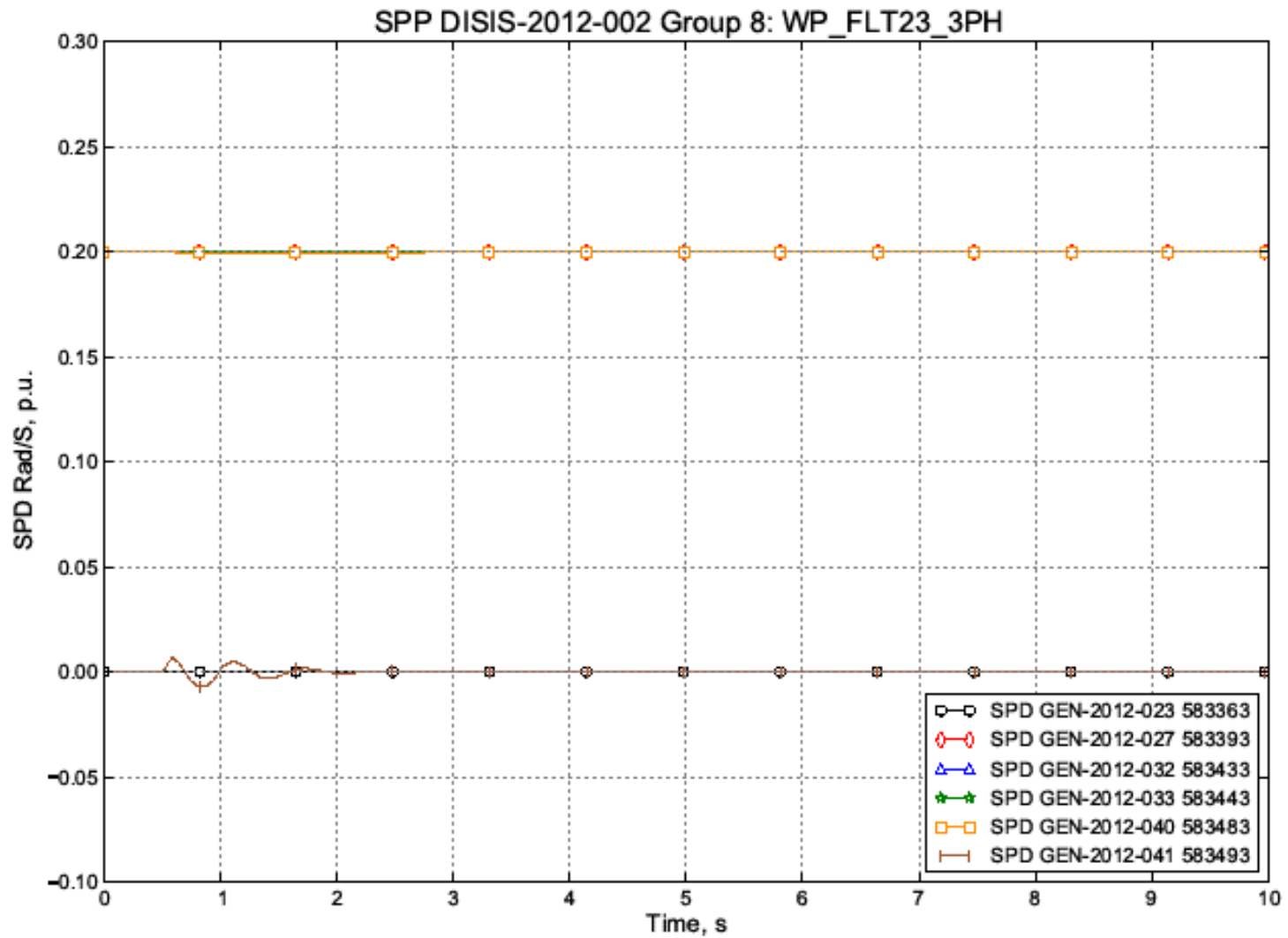


Figure 4-3. Speed response for the study projects during Contingency #23 (FLT23-3PH) for winter peak conditions.

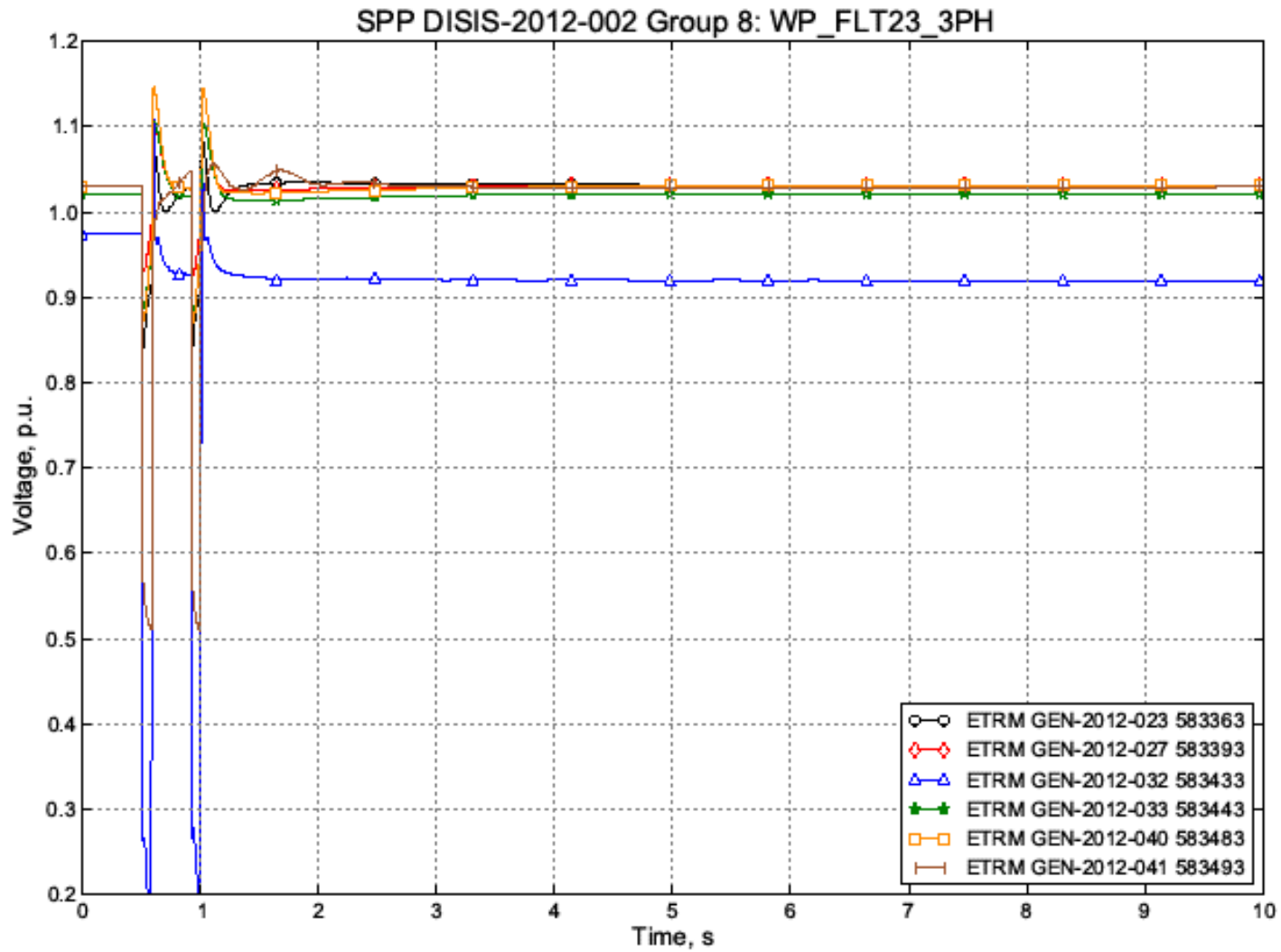


Figure 4-4. Terminal voltage response for the study projects during Contingency #23 (FLT23-3PH) for winter peak conditions.

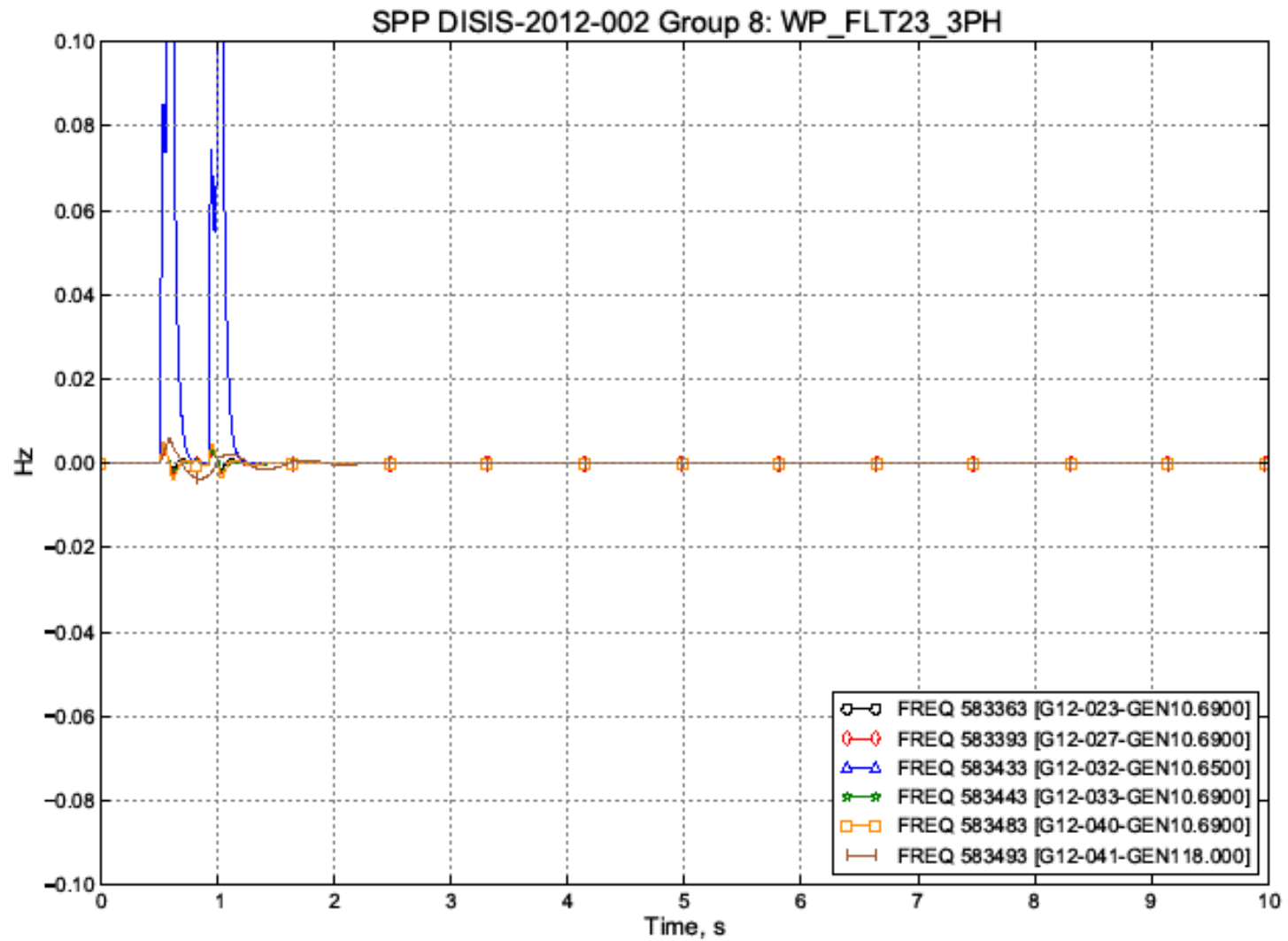


Figure 4-5. Frequency response for the study projects during Contingency #23 (FLT23-3PH) for winter peak conditions.

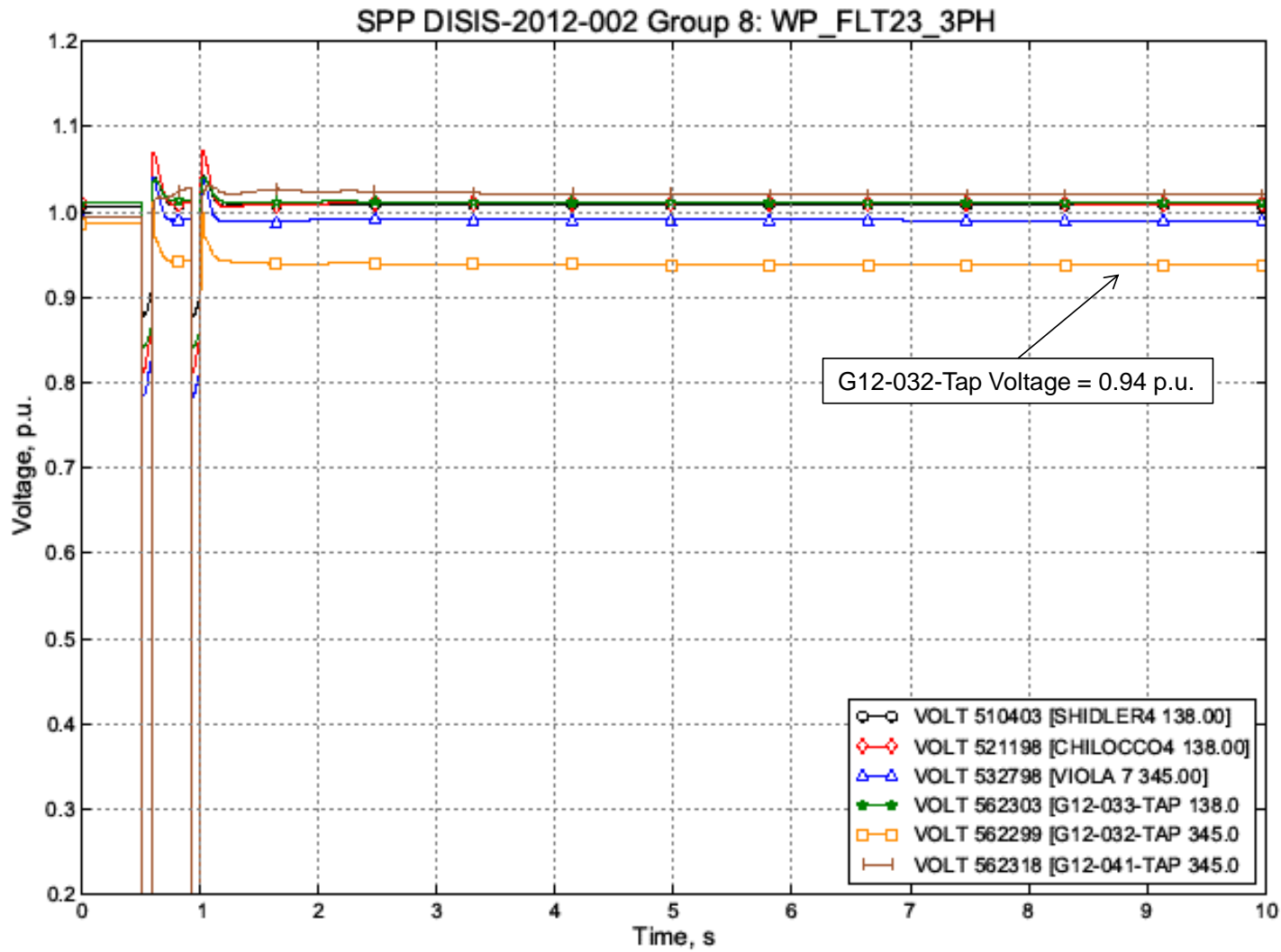


Figure 4-6. Voltage response of each study project's POI bus for Contingency #23 (FLT23-3PH) for winter peak conditions.

Summary

For the Summer Peak case, the Stability Analysis determined that there was no wind turbine tripping or system instability occurs from interconnecting GEN-2012-023, GEN-2012-027, GEN-2012-032, GEN-2012-033, GEN-2012-040, and GEN-2012-041 at 100% output.

For the Winter Peak case, the Stability Analysis determined that there was no wind turbine tripping or system instability that occurs from interconnecting GEN-2012-023, GEN-2012-027, GEN-2012-032, GEN-2012-033, GEN-2012-040, and GEN-2012-041 at 100% output. Note that GEN12-032-Tap has a post-fault voltage of 0.94 p.u.

SECTION 5: CONCLUSIONS

Power Factor Analysis

The Power Factor Analysis shows that:

- GEN-2012-023 has a power factor range of 0.9827 lagging (supplying) to 0.9978 leading (absorbing).
- GEN-2012-027 has a power factor range of 0.9943 lagging (supplying) to 0.9892 leading (absorbing).
- GEN-2012-032 has a power factor range of 0.9398 lagging (supplying) to 0.9708 leading (absorbing).
- GEN-2012-033 has a power factor range of 0.9854 lagging (supplying) to 0.9875 leading (absorbing).
- GEN-2012-040 has a power factor range of 0.9824 lagging (supplying) to 0.9659 leading (absorbing).
- GEN-2012-041 has a power factor range of 0.6497 lagging (supplying) to 0.8457 leading (absorbing).

Stability Analysis

For the Summer Peak case, the Stability Analysis determined that there was no wind turbine tripping or system instability occurs from interconnecting GEN-2012-023, GEN-2012-027, GEN-2012-032, GEN-2012-033, GEN-2012-040, and GEN-2012-012 at 100% output.

For the Winter Peak case, the Stability Analysis determined that there was no wind turbine tripping or system instability occurs from interconnecting GEN-2012-023, GEN-2012-027, GEN-2012-032, GEN-2012-033, GEN-2012-040, and GEN-2012-012 at 100% output. Note that GEN12-032-Tap has a post-fault voltage of 0.94 p.u.

O: Group 9 Dynamic Stability Analysis Report

See S&C report on next page.



S&C ELECTRIC COMPANY

Excellence Through Innovation

DISIS-2012-002 (GROUP 9)

LITTLE ROCK, AR

SOUTHWEST POWER POOL (SPP)

DEFINITIVE SYSTEM IMPACT STUDY

S&C PROJECT NUMBER: 6870

REVISION: 0

FINAL REPORT

CONFIDENTIAL

JANUARY 24, 2013



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1. EXECUTIVE SUMMARY

S&C Electric Company has performed a Definitive Impact Study DISIS-2012-002 (Group 9) in response to a request through the Southwest Power Pool (SPP) tariff studies. Group 9 includes three generation interconnection projects. One of the interconnection projects, i.e. GEN-2012-018, is a new wind farm project and the other two, i.e. GEN-2012-017 and GEN-2012-021, are generation expansions in the existing generation power plants.

Group 9 and prior-queued projects specified in the scope of work were studied at 100% output power using the 2014 summer and winter peak cases provided by SPP.

SPP requires that interconnection request projects meet a voltage schedule at the point of interconnection (POI) consistent with the voltage in the SPP base case or nominal voltage, whichever is higher. The power factor requirements for wind-farm interconnection projects are specified by SPP for N-1 contingencies (or N-2 contingencies if applicable). Power Factor analysis for the wind generation study project revealed that GEN-2012-018 is required to maintain a power factor of 99% lagging to 99% leading at the POI.

Transient stability analysis indicated that Group 9 is expected to successfully ride-through each N-1 and N-2 fault contingency specified by SPP and the nearby areas will retain angular, frequency and voltage stability. Group 9 is expected to successfully interconnect into the transmission system at the desired location without reduction in output power. Furthermore, all the study projects and nearby generators in the study area meet rotor angular damping and transient voltage recovery requirements as specified in Appendix A of the scope of work.



2. INTRODUCTION

S&C Electric Company has performed a Definitive Interconnection System Impact Study DISIS-2012-002 (Group 9) in response to a request through the Southwest Power Pool (SPP) Tariff studies. Group 9 includes projects listed in Table 1.

Table 1: Study Projects in Group 9

Project	Size	Wind Turbine Model	Point of Interconnection
GEN-2012-017	115 MW increase	GENROU	Cooper 345kV (640139)
GEN-2012-018	200 MW	GE 1.6 MW	GEN-2010-051 230kV Tap (560347)
GEN-2012-021	4.8 MW increase	GENROU	84 th & Bluff 115kV (650275)

GEN-2012-018 is a new wind farm project and GEN-2012-017 and GEN-2012-021 are generation expansion in the existing nuclear and gas generation power plants, respectively.

Group 9 and prior-queued projects were studied at 100% output power using 2014 summer and winter peak cases provided by SPP.



3. TRANSMISSION SYSTEM AND STUDY AREA

The study projects in Group 9 will interconnect into Nebraska Public Power District (NPPD) and Lincoln Electric System (LES). In addition to these areas, the following areas were also monitored:

- Midwest Energy, Inc. (MIDW)
- Sunflower Electric Power Company (SUNC)
- Westar Energy, Inc. (WERE)
- Greater Missouri Operations (GMO)
- Omaha Public Power District (OPPD)
- Western Area Power Administration (WAPA).



4. POWER FLOW BASE CASES

DISIS-2012-002 (Group 9) and prior-queued projects were modeled as aggregates of generating units. The aggregate models were part of the base case supplied by SPP. Figure 1 depicts simplified one-line diagrams for the three (3) study projects.

The following power flow base cases were provided by SPP:

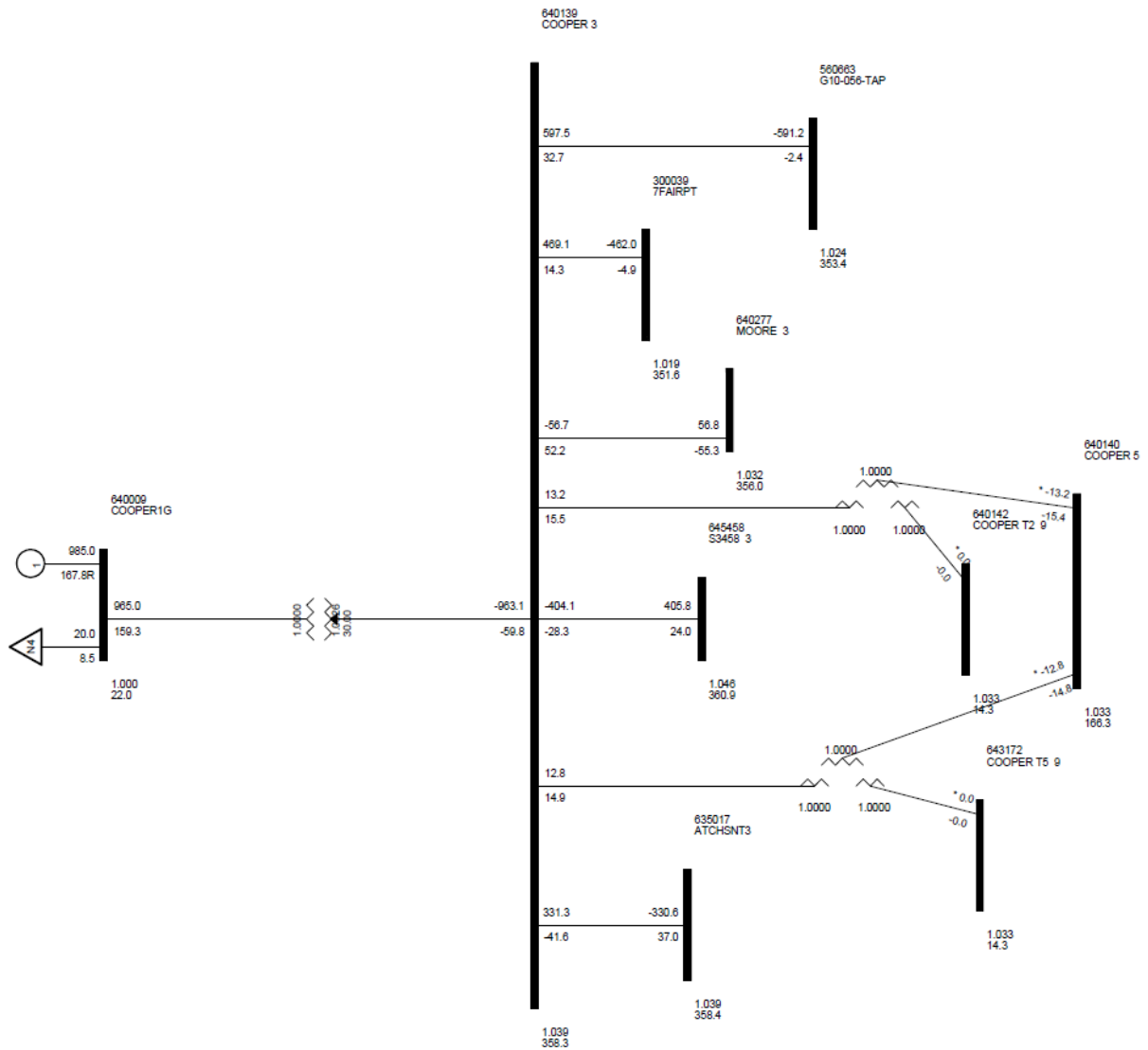
MDWG12-14SP_DIS12-02_G09 – 2014 Summer peak case, which includes aggregate representation of interconnect requests for DISIS-2012-002 (Group 9) and prior-queued projects at 100% output power.

MDWG12-14W1_DIS12-02_G09 – 2014 Winter peak case, which includes aggregate representation of interconnect requests for DISIS-2012-002 (Group 9) and prior-queued projects at 100% output power.

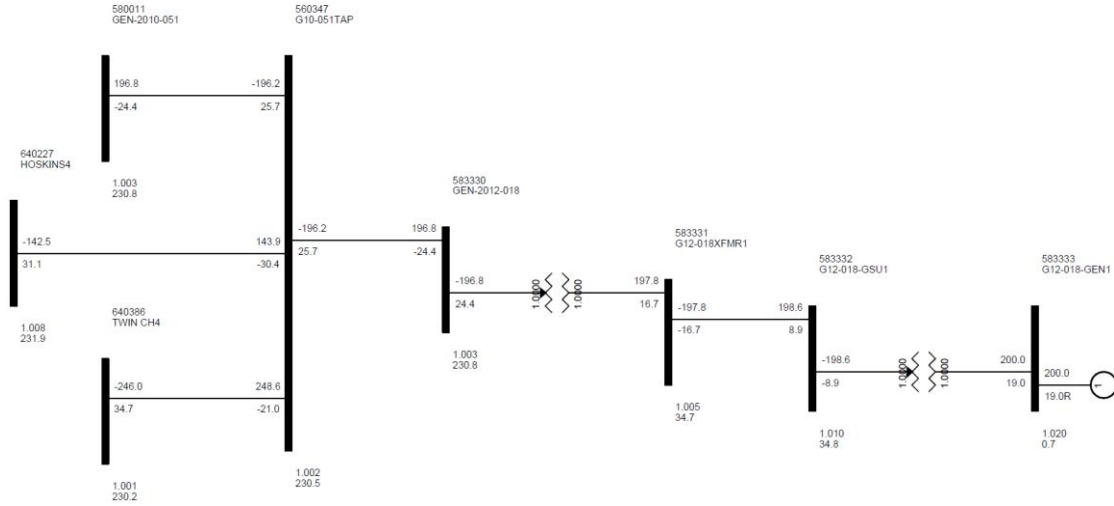


5. POWER FLOW MODEL

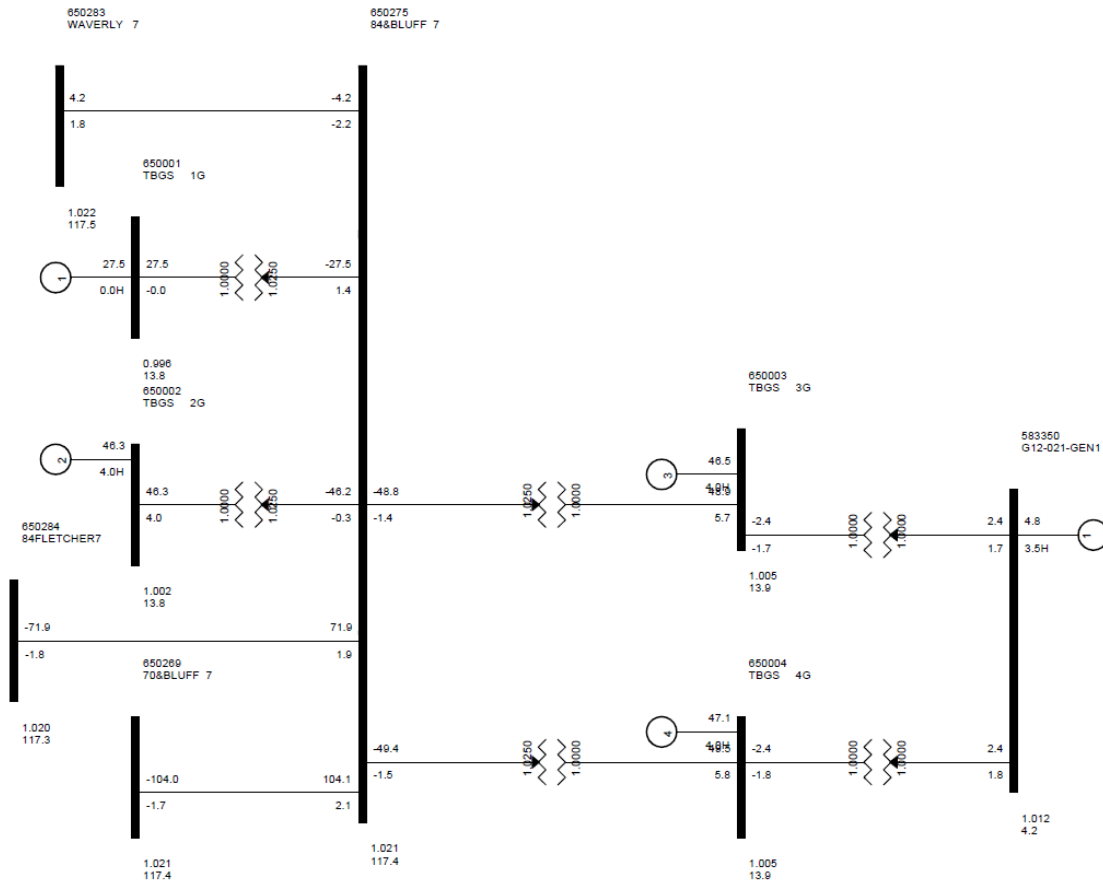
Definitive Impact Study DISIS-2012-002 (Group 9) and prior-queued projects were modeled as aggregates of generating units. The aggregate models were part of the base case supplied by SPP. Figure 1 depicts simplified one-line diagrams for the three (3) study projects.



(a)



(b)



(c)

Fig.1. Simplified one-line diagrams for study projects (a) GEN-2012-017, (b) GEN-2012-018, and (c) GEN-2012-021.



6. POWER FACTOR REQUIREMENTS AT THE POINT OF INTERCONNECTION

SPP has specific voltage requirements for interconnecting wind farm requests. Such projects are required to meet a voltage schedule at the POI consistent with the voltage in the SPP base case or nominal voltage, whichever is higher, for single (or N-2, if applicable) transmission facility outage contingencies specified by SPP.

6.1. FACILITY OUTAGE CONTINGENCIES

The base case voltages at the point of interconnection for summer and winter are listed in Table 2. Note that the power factor requirements are applied only to the one wind project in the group (i.e. GEN-2012-018).

Transmission facility outage contingencies specified by SPP are listed in Table 3.

Table 2: Base Case Voltage at the Point of Interconnection for GEN-2012-018

Study Project	Point of Interconnection	2014 Summer Peak (pu)	2014 Winter Peak (pu)
GEN-2012-018	GEN-2010-051 230-kV Tap (560347)	1.002	1.007

Table 3: List of Outages for Power-Factor Analysis

Cont. No.	Description
0	System Intact
1	Outage of the Cooper (640139) to Fairport (300039) 345-kV line
2	Outage of the Cooper (640139) to Atchison (635017) 345-kV line
3	Outage of the Cooper (640139) to Moore (640277) 345-kV line
4	Outage of the Cooper (640139) to S3458 (645458) 345-kV line
5	Outage of the Cooper (640139) to G10-056-Tap (560663) 345-kV line
6	Outage of the Fairport (300039) to St. Joe (541199) 345-kV line
7	Outage of the Atchison (635017) to Booneville (635630) 345-kV line
8	Outage of the Moore (640277) to Pauline (640312) 345-kV line
9	Outage of the Moore (640277) to McCool (640271) 345-kV line



Cont. No.	Description
10	Outage of the Moore (640277) to NW68HOLDRG (650114) 345-kV line
11	Outage of the Moore (640277) to 103&Rokeby (650189) 345-kV line
12	Outage of the S3458 (645458) to S3456 (645456) 345-kV line
13	Outage of the S3458 (645458) to S3740 (645740) 345-kV line
14	Outage of the S3458 (645458) to 103&Rokeby (650189) 345-kV line
15	Outage of the G10-056-Tap (560663) to St. Joe (541199) 345-kV line
16	Outage of the St. Joe (541199) to Eastown (541400) 345-kV line
17	Outage of the St. Joe (541199) to Nashua (542980) 345-kV line
18	Outage of the G10-051 Tap (560347) to Hoskins (640227) 230-kV line
19	Outage of the G10-051 Tap (560347) to Twin Church (640386) 230-kV line
20	Outage of the Twin Church (640386) to Sioux City (652565) 230-kV line
21	Outage of the Sioux City (652565) to Ft. Randall (652509) 230-kV line
22	Outage of the Sioux City (652565) to Rasmusn (652567) 230-kV line
23	Outage of the Sioux City (652565) to Eagle (659900) 230-kV line
24	Outage of the Hoskins (640226) to Raun (635200) 345-kV line
25	Outage of the Hoskins (640226) to Shell Creek (640342) 345-kV line
26	Outage of the Hoskins (640228) to Belden (640080) 115-kV line
27	Outage of the Hoskins (640228) to Norfolk.N (640296) 115-kV line
28	Outage of the Hoskins (640228) to Norfolk (640298) 115-kV line
29	Outage of the 84&Bluff (650275) to 70&Bluff (650269) 115-kV line
30	Outage of the 84&Bluff (650275) to Waverly (650283) 115-kV line
31	Outage of the 84&Bluff (650275) to 84Fletcher (650284) 115-kV line
32	Outage of the 70&Bluff (650269) to Davey (640155) 115-kV line
33	Outage of the 70&Bluff (650269) to 56&I80 (650261) 115-kV line
34	Outage of the Wagener (650285) to 84Leighton (650267) 115-kV line
35	Outage of the Wagener (650285) to 81&Ocheney (650271) 115-kV line
36	Outage of the Wagener (650285) to Waverly (650283) 115-kV line



Cont. No.	Description
37	Outage of the 84Leighton (650267) to 57&Garland (650262) 115-kV line
38	Outage of the 84Leighton (650267) to 91&A (650272) 115-kV line
39	Outage of the 84Leighton (650267) to 91&O (650273) 115-kV line
40	Outage of the Davey (640155) to Wahoo (640402) 115-kV line
41	Outage of the 19th&Alvo (650215) to 4&Morton (650205) 115-kV line
42	Outage of the 19th&Alvo (650215) to NW12&Arbor (650226) 115-kV line
43	Outage of the 19th&Alvo (650215) to 27Fletcher (650228) 115-kV line
44	Outage of the Wagener (650185) to S3454 (645454) 345-kV line
45	Outage of the Wagener (650185) to NW68Holdr (650114) 345-kV line
46	Outage of the Wagener (650185) to 103&Rokeby (650189) 345-kV line
47	Outage of the NW68Holdrg (650114) to Columbus East (640125) 345-kV line
48	Outage of the NW68Holdrg (650114) to Moore (640277) 345-kV line
49	Outage of the Broken Bow (640089) to Crooked Creek (640094) 115-kV line
50	Outage of the Broken Bow (640089) to Calaway (640098) 115-kV line
51	Outage of the Broken Bow (640089) to Loup City (640259) 115-kV line
52	Outage of the Maxwels (640267) to Thedfrd (640381) 115-kV line
53	Outage of the Maxwels (640267) to N. Platt (640287) 115-kV line
54	Outage of the N. Platt (640287) to Jeffrey (640238) 115-kV line
55	Outage of the N. Platt (640287) to Maloney (640265) 115-kV line
56	Outage of the N. Platt (640287) to Stockville (640365) 115-kV line
57	Outage of the N. Platt (640286) to Crooked Creek (640093) 230-kV line
58	Outage of the N. Platt (640286) to Gentleman (640184) 230-kV line
59	Outage of the Crooked Creek (640093) to Canaday (640102) 230-kV line
60	Outage of the Crooked Creek (640093) to Riverdale (640330) 230-kV line
61	Outage of the Loup City (640259) to North Loup (640284) 115-kV line
62	Outage of the Loup City (640259) to St. Libory Jct. (640353) 115-kV line
63	Outage of the Albion (640054) to Genoa (640181) 115-kV line



Cont. No.	Description
64	Outage of the Albion (640054) to Petersburg (640318) 115-kV line
65	Outage of the Cooper (640139) 345 kV to Cooper (640140) 161 kV/(640148) 13.8 kV transformer
66	Outage of the Fairport (300039) 345 kV to Fairport (300076) 161 kV transformer
67	Outage of the Moore (640277) 345 kV to Sheldon (640278) 115 kV/(640280) 13.8 kV transformer
68	Outage of the St. Joe (541199) 345 kV to St. Joe (541253) 161 kV/(541370) 13.8 kV transformer
69	Outage of the Hoskins (640226) 345 kV to Hoskins (640227) 230 kV/(643082) 13.8 kV transformer
70	Outage of the Hoskins (640227) 230 kV to Hoskins (640228) 115 kV/(643083) 13.8 kV transformer
71	Outage of the Twin Church (640386) 230 kV to Twin Church (640387) 115 kV/(643155) 13.8 kV transformer
72	Outage of the Sioux City (652564) 345 kV to Sioux City (652565) 230 kV/(652304) 13.8 kV transformer
73	Outage of the Sioux City (652565) 230 kV to Sioux City (652566) 161 kV/(652308) 13.8 kV transformer
74	Outage of the 70&Bluff (650269) 115 kV to 70&Bluff (650169) 161 kV/(650369) 13.8 kV transformer
75	Outage of the Wagener (650185) 345 kV to Wagener (650285) 115 kV/(650385) 13.8 kV transformer
76	Outage of the NW68Holdrg (650114) 345 kV to NW68Holdrg (650214) 115 kV/(650314) 13.8 kV transformer
77	Outage of the N. Platt (640286) 230 kV to N. Platt (640287) 115 kV/(640290) 13.8 kV transformer
78	Outage of the Crooked Creek (640093) 230 kV to Crooked Creek (640094) 115 kV/(643026) 13.8 kV transformer
79	Prior outage of Fairport (300039) - St Joe (541199) 345 kV followed by outage of the Cooper (640139) to G10-056-Tap (560663) 345-kV line
80	Outage of the S3451 (645451) to S3459 (645459) 345-kV line and outage of the S3451 (645451) to S3459 (645454) 345-kV line
81	Outage of S3451 (645451) to Raun (635200) 345-kV line and outage of the three winding transformer (S3451 T4) at bus 645451/646251/648351
82	Outage of the S1206 (646206) to S1232 (646232) 161-kV line and outage of the S1206 (646206) to S1201 (646201) 161-kV line

The power factor required to maintain a voltage schedule at the POI at the levels specified in Table 2 in accordance with SPP requirements for each of the power flow contingencies in Table 3 is listed in Table 4. According to FERC 661-A, wind farms are not typically required to operate beyond a power factor range of $\pm 95\%$ at the POI for voltages from 95 to 105% of nominal. In the case of the GEN-2012-018 study project none of the contingency cases is expected to result in required power factor exceeding the $\pm 95\%$ requirement. As the results of the power factor



analysis indicate, GEN-2012-018 is required to maintain a power factor of only 99% lagging to 99% leading at the POI.

Table 4: Power Factor Requirements at the POI for Outages in Table 3 for GEN-2012-018

Cont. No.	Summer				Winter			
	P (MW)	Q (Mvar)	Power Factor		P (MW)	Q (Mvar)	Power Factor	
0	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
1	200.0	-25.8	99.18%	leading	200.0	-21.9	99.41%	leading
2	200.0	-25.0	99.23%	leading	200.0	-20.5	99.48%	leading
3	200.0	-24.6	99.25%	leading	200.0	-20.7	99.47%	leading
4	200.0	-25.7	99.18%	leading	200.0	-22.0	99.40%	leading
5	200.0	-26.0	99.17%	leading	200.0	-22.2	99.39%	leading
6	200.0	-25.8	99.18%	leading	200.0	-22.0	99.40%	leading
7	200.0	-25.0	99.23%	leading	200.0	-20.4	99.48%	leading
8	200.0	-24.2	99.28%	leading	200.0	-19.8	99.51%	leading
9	200.0	-24.2	99.28%	leading	200.0	-19.5	99.53%	leading
10	200.0	-24.7	99.25%	leading	200.0	-21.2	99.44%	leading
11	200.0	-25.2	99.22%	leading	200.0	-21.0	99.45%	leading
12	200.0	-25.2	99.22%	leading	200.0	-21.0	99.45%	leading
13	200.0	-25.4	99.20%	leading	200.0	-21.1	99.45%	leading
14	200.0	-24.0	99.29%	leading	200.0	-20.5	99.48%	leading
15	200.0	-26.2	99.15%	leading	200.0	-22.4	99.38%	leading
16	200.0	-25.7	99.18%	leading	200.0	-22.0	99.40%	leading
17	200.0	-26.1	99.16%	leading	200.0	-22.3	99.38%	leading
18	200.0	13.7	99.77%	lagging	200.0	6.2	99.95%	lagging
19	200.0	24.3	99.27%	lagging	200.0	24.9	99.23%	lagging
20	200.0	6.4	99.95%	lagging	200.0	-1.3	100.00%	leading
21	200.0	-20.2	99.49%	leading	200.0	-22.5	99.37%	leading
22	200.0	-24.0	99.29%	leading	200.0	-26.7	99.12%	leading
23	200.0	-28.5	99.00%	leading	200.0	-22.8	99.36%	leading
24	200.0	-6.8	99.94%	leading	200.0	-5.1	99.97%	leading
25	200.0	-15.5	99.70%	leading	200.0	-15.2	99.71%	leading
26	200.0	-25.3	99.21%	leading	200.0	-21.9	99.41%	leading
27	200.0	-25.8	99.18%	leading	200.0	-21.5	99.43%	leading
28	200.0	-25.5	99.20%	leading	200.0	-21.9	99.41%	leading
29	200.0	-25.6	99.19%	leading	200.0	-21.8	99.41%	leading
30	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
31	200.0	-25.6	99.19%	leading	200.0	-21.9	99.41%	leading
32	200.0	-25.3	99.21%	leading	200.0	-21.5	99.43%	leading
33	200.0	-25.6	99.19%	leading	200.0	-21.9	99.41%	leading
34	200.0	-25.5	99.20%	leading	200.0	-21.8	99.41%	leading
35	200.0	-25.6	99.19%	leading	200.0	-21.9	99.41%	leading



Cont. No.	Summer				Winter			
	P (MW)	Q (Mvar)	Power Factor		P (MW)	Q (Mvar)	Power Factor	
36	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
37	200.0	-25.5	99.20%	leading	200.0	-21.8	99.41%	leading
38	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
39	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
40	200.0	-25.4	99.20%	leading	200.0	-21.7	99.42%	leading
41	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
42	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
43	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
44	200.0	-26.0	99.17%	leading	200.0	-21.6	99.42%	leading
45	200.0	-25.1	99.22%	leading	200.0	-21.1	99.45%	leading
46	200.0	-24.8	99.24%	leading	200.0	-20.9	99.46%	leading
47	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
48	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
49	200.0	-25.6	99.19%	leading	200.0	-21.6	99.42%	leading
50	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
51	200.0	-25.9	99.17%	leading	200.0	-22.7	99.36%	leading
52	200.0	-25.9	99.17%	leading	200.0	-22.2	99.39%	leading
53	200.0	-26.0	99.17%	leading	200.0	-22.2	99.39%	leading
54	200.0	-25.5	99.20%	leading	200.0	-21.8	99.41%	leading
55	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
56	200.0	-25.6	99.19%	leading	200.0	-21.8	99.41%	leading
57	200.0	-25.1	99.22%	leading	200.0	-21.8	99.41%	leading
58	200.0	-25.6	99.19%	leading	200.0	-21.9	99.41%	leading
59	200.0	-25.5	99.20%	leading	200.0	-21.7	99.42%	leading
60	200.0	-25.2	99.22%	leading	200.0	-21.4	99.43%	leading
61	200.0	-26.2	99.15%	leading	200.0	-22.8	99.36%	leading
62	200.0	-25.5	99.20%	leading	200.0	-21.5	99.43%	leading
63	200.0	-24.9	99.23%	leading	200.0	-20.5	99.48%	leading
64	200.0	-21.9	99.41%	leading	200.0	-17.5	99.62%	leading
65	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
66	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
67	200.0	-27.3	99.08%	leading	200.0	-23.6	99.31%	leading
68	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
69	200.0	6.5	99.95%	lagging	200.0	5.5	99.96%	lagging
70	200.0	-22.1	99.40%	leading	200.0	-18.2	99.59%	leading



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Cont. No.	Summer				Winter			
	P (MW)	Q (Mvar)	Power Factor		P (MW)	Q (Mvar)	Power Factor	
71	200.0	-23.0	99.35%	leading	200.0	-18.8	99.56%	leading
72	200.0	-22.3	99.38%	leading	200.0	-22.2	99.39%	leading
73	200.0	-25.8	99.18%	leading	200.0	-21.4	99.43%	leading
74	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
75	200.0	-25.5	99.20%	leading	200.0	-21.8	99.41%	leading
76	200.0	-26.0	99.17%	leading	200.0	-22.0	99.40%	leading
77	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading
78	200.0	-25.6	99.19%	leading	200.0	-21.6	99.42%	leading
79	200.0	-26.6	99.13%	leading	200.0	-22.8	99.36%	leading
80	200.0	-25.3	99.21%	leading	200.0	-21.8	99.41%	leading
81	200.0	-24.5	99.26%	leading	200.0	-21.5	99.43%	leading
82	200.0	-25.7	99.18%	leading	200.0	-21.9	99.41%	leading



7. TRANSIENT STABILITY ANALYSIS

Transient stability analysis was performed for the fault contingencies in Table 5, which were specified by SPP.

Table 5: SPP-specified fault contingencies

Cont. No.	Cont. Name	Description
1	FLT01-3PH	3 phase fault on the Cooper (640139) to Fairport (300039) 345 kV near Cooper. a. Apply fault at Cooper 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
2	FLT02-3PH	3 phase fault on the Cooper (640139) to Atchison (635017) 345 kV near Cooper. a. Apply fault at Cooper 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
3	FLT03-3PH	3 phase fault on the Cooper (640139) to Moore (640277) 345 kV near Cooper. a. Apply fault at Cooper 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
4	FLT04-3PH	3 phase fault on the Cooper (640139) to S3458 (645458) 345 kV near Cooper. a. Apply fault at Cooper 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
5	FLT05-3PH	3 phase fault on the Cooper (640139) to G10-056-Tap (560663) 345 kV near Cooper. a. Apply fault at Cooper 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
6	FLT06-3PH	3 phase fault on the Fairport (300039) to St. Joe (541199) 345 kV near Fairport. a. Apply fault at Fairport 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
7	FLT07-3PH	3 phase fault on the Atchison (635017) to Booneville (635630) 345 kV near Atchison. a. Apply fault at Atchison 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
8	FLT08-3PH	3 phase fault on the Moore (640277) to Pauline (640312) 345 kV near Moore. a. Apply fault at Moore 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
9	FLT09-3PH	3 phase fault on the Moore (640277) to McCool (640271) 345 kV near Moore. a. Apply fault at Moore 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
10	FLT10-3PH	3 phase fault on the Moore (640277) to NW68HOLDRG (650114) 345 kV near Moore. a. Apply fault at Moore 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
11	FLT11-3PH	3 phase fault on the Moore (640277) to 103&Rokeby (650189) 345 kV near Moore. a. Apply fault at Moore 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
12	FLT12-3PH	3 phase fault on the S3458 (645458) to S3456 (645456) 345 kV near S3458. a. Apply fault at S3458 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.



Cont. No.	Cont. Name	Description
13	FLT13-3PH	3 phase fault on the S3458 (645458) to S3740 (645740) 345 kV near S3458. a. Apply fault at S3458 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
14	FLT14-3PH	3 phase fault on the S3458 (645458) to 103&Rokeby (650189) 345 kV near S3458. a. Apply fault at S3458 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
15	FLT15-3PH	3 phase fault on the G10-056-Tap (560663) to St. Joe (541199) 345 kV near G10-056-Tap. a. Apply fault at G10-056-Tap 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
16	FLT16-3PH	3 phase fault on the St. Joe (541199) to Easttown (541400) 345 kV near St. Joe. a. Apply fault at St. Joe 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
17	FLT17-3PH	3 phase fault on the St. Joe (541199) to Nashua (542980) 345 kV near St. Joe. a. Apply fault at St. Joe 345-kV bus. b. Clear fault after 6.5 cycles by tripping faulted line.
18	FLT18-3PH	3 phase fault on the G10-051 Tap (560347) to Hoskins (640227) 230-kV line, near G10-051 Tap. a. Apply fault at the G10-051 Tap 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
19	FLT19-3PH	3 phase fault on the G10-051 Tap (560347) to Twin Church (640386) 230-kV line, near G10-051 Tap. a. Apply fault at the G10-051 Tap 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
20	FLT20-3PH	3 phase fault on the Twin Church (640386) to Sioux City (652565) 230-kV line, near Twin Church. a. Apply fault at the Twin Church 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
21	FLT21-3PH	3 phase fault on the Sioux City (652565) to Ft. Randall (652509) 230-kV line, near Sioux City. a. Apply fault at the Sioux City 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
22	FLT22-3PH	3 phase fault on the Sioux City (652565) to Rasmusn (652567) 230-kV line, near Sioux City. a. Apply fault at the Sioux City 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
23	FLT23-3PH	3 phase fault on the Sioux City (652565) to Eagle (659900) 230-kV line, near Sioux City. a. Apply fault at the Sioux City 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
24	FLT24-3PH	3 phase fault on the Hoskins (640226) to Raun (635200) 345-kV line, near Hoskins. a. Apply fault at the Hoskins 345-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
25	FLT25-3PH	3 phase fault on the Hoskins (640226) to Shell Creek (640342) 345-kV line, near Hoskins. a. Apply fault at the Hoskins 345-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.



Cont. No.	Cont. Name	Description
26	FLT26-3PH	3 phase fault on the Hoskins (640228) to Belden (640080) 115-kV line, near Hoskins. a. Apply fault at the Hoskins 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
27	FLT27-3PH	3 phase fault on the Hoskins (640228) to Norfolk.N (640296) 115-kV line, near Hoskins. a. Apply fault at the Hoskins 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
28	FLT28-3PH	3 phase fault on the Hoskins (640228) to Norfolk (640298) 115-kV line, near Hoskins. a. Apply fault at the Hoskins 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
29	FLT29-3PH	3 phase fault on the 84&Bluff (650275) to 70&Bluff (650269) 115-kV line, near 84&Bluff. a. Apply fault at the 84&Bluff 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
30	FLT30-3PH	3 phase fault on the 84&Bluff (650275) to Waverly (650283) 115-kV line, near 84&Bluff. a. Apply fault at the 84&Bluff 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
31	FLT31-3PH	3 phase fault on the 84&Bluff (650275) to 84Fletcher (650284) 115-kV line, near 84&Bluff. a. Apply fault at the 84&Bluff 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
32	FLT32-3PH	3 phase fault on the 70&Bluff (650269) to Davey (640155) 115-kV line, near 70&Bluff. a. Apply fault at the 70&Bluff 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
33	FLT33-3PH	3 phase fault on the 70&Bluff (650269) to 56&I80 (650261) 115-kV line, near 70&Bluff. a. Apply fault at the 70&Bluff 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
34	FLT34-3PH	3 phase fault on the Wagener (650285) to 84Leighton (650267) 115-kV line, near Wagener. a. Apply fault at the Wagener 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
35	FLT35-3PH	3 phase fault on the Wagener (650285) to 81&Ocheney (650271) 115-kV line, near Wagener. a. Apply fault at the Wagener 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
36	FLT36-3PH	3 phase fault on the Wagener (650285) to Waverly (650283) 115-kV line, near Wagener. a. Apply fault at the Wagener 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
37	FLT37-3PH	3 phase fault on the 84Leighton (650267) to 57&Garland (650262) 115-kV line, near 84Leighton. a. Apply fault at the 84Leighton 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.



Cont. No.	Cont. Name	Description
38	FLT38-3PH	3 phase fault on the 84Leighton (650267) to 91&A (650272) 115-kV line, near 84Leighton. a. Apply fault at the 84Leighton 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
39	FLT39-3PH	3 phase fault on the 84Leighton (650267) to 91&O (650273) 115-kV line, near 84Leighton. a. Apply fault at the 84Leighton 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
40	FLT40-3PH	3 phase fault on the Davey (640155) to Wahoo (640402) 115-kV line, near Davey. a. Apply fault at the Davey 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
41	FLT41-3PH	3 phase fault on the 19 th &Alvo (650215) to 4&Morton (650205) 115-kV line, near 19 th &Alvo. a. Apply fault at the 19 th &Alvo 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
42	FLT42-3PH	3 phase fault on the 19 th &Alvo (650215) to NW12&Arbor (650226) 115-kV line, near 19 th &Alvo. a. Apply fault at the 19 th &Alvo 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
43	FLT43-3PH	3 phase fault on the 19 th &Alvo (650215) to 27Fletcher (650228) 115-kV line, near 19 th &Alvo. a. Apply fault at the 19 th &Alvo 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
44	FLT44-3PH	3 phase fault on the Wagener (650185) to S3454 (645454) 345-kV line, near Wagener. a. Apply fault at the Wagener 345-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
45	FLT45-3PH	3 phase fault on the Wagener (650185) to NW68Holdr (650114) 345-kV line, near Wagener. a. Apply fault at the Wagener 345-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
46	FLT46-3PH	3 phase fault on the Wagener (650185) to 103&Rokeby (650189) 345-kV line, near Wagener. a. Apply fault at the Wagener 345-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
47	FLT47-3PH	3 phase fault on the NW68Holdrg (650114) to Columbus East (640125) 345-kV line, near NW68Holdrg. a. Apply fault at the NW68Holdrg 345-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
48	FLT48-3PH	3 phase fault on the NW68Holdrg (650114) to Moore (640277) 345-kV line, near NW68Holdrg. a. Apply fault at the NW68Holdrg 345-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.



Cont. No.	Cont. Name	Description
49	FLT49-3PH	3 phase fault on the Broken Bow (640089) to Crooked Creek (640094) 115-kV line, near Broken Bow. a. Apply fault at the Broken Bow 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
50	FLT50-3PH	3 phase fault on the Broken Bow (640089) to Calaway (640098) 115-kV line, near Broken Bow. a. Apply fault at the Broken Bow 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
51	FLT51-3PH	3 phase fault on the Broken Bow (640089) to Loup City (640259) 115-kV line, near Broken Bow. a. Apply fault at the Broken Bow 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
52	FLT52-3PH	3 phase fault on the Maxwels (640267) to Thedfrd (640381) 115-kV line, near Maxwels. a. Apply fault at the Maxwels 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
53	FLT53-3PH	3 phase fault on the Maxwels (640267) to N. Platt (640287) 115-kV line, near Maxwels. a. Apply fault at the Maxwels 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
54	FLT54-3PH	3 phase fault on the N. Platt (640287) to Jeffrey (640238) 115-kV line, near N. Platt. a. Apply fault at the N. Platt 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
55	FLT55-3PH	3 phase fault on the N. Platt (640287) to Maloney (640265) 115kV line, near N. Platt. a. Apply fault at the N. Platt 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
56	FLT56-3PH	3 phase fault on the N. Platt (640287) to Stockville (640365) 115-kV line, near N. Platt. a. Apply fault at the N. Platt 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
57	FLT57-3PH	3 phase fault on the N. Platt (640286) to Crooked Creek (640093) 230-kV line, near N. Platt. a. Apply fault at the N. Platt 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
58	FLT58-3PH	3 phase fault on the N. Platt (640286) to Gentleman (640184) 230-kV line, near N. Platt. a. Apply fault at the N. Platt 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
59	FLT59-3PH	3 phase fault on the Crooked Creek (640093) to Canaday (640102) 230-kV line, near Crooked Creek. a. Apply fault at the Crooked Creek 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
60	FLT60-3PH	3 phase fault on the Crooked Creek (640093) to Riverdale (640330) 230-kV line, near Crooked Creek. a. Apply fault at the Crooked Creek 230-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.



Cont. No.	Cont. Name	Description
61	FLT61-3PH	3 phase fault on the Loup City (640259) to North Loup (640284) 115-kV line, near Loup City. a. Apply fault at the Loup City 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
62	FLT62-3PH	3 phase fault on the Loup City (640259) to St. Libory Jct. (640353) 115-kV line, near Loup City. a. Apply fault at the Loup City 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
63	FLT63-3PH	3 phase fault on the Albion (640054) to Genoa (640181) 115-kV line, near Albion. a. Apply fault at the Albion 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
64	FLT64-3PH	3 phase fault on the Albion (640054) to Petersburg (640318) 115-kV line, near Albion. a. Apply fault at the Albion 115-kV bus. b. Clear fault after 6.5 cycles by tripping the faulted line.
65	FLT65-3PH	3 phase fault on the Cooper (640139) 345kV to Cooper (640140) 161 kV/(640148) 13.8 kV transformer at the 345-kV bus. a. Apply fault at the Cooper 345-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
66	FLT66-3PH	3 phase fault on the Fairport (300039) 345 kV to Fairport (300076) 161 kV transformer at the 345-kV bus. a. Apply fault at the Fairport 345-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
67	FLT67-3PH	3 phase fault on the Moore (640277) 345 kV to Sheldon (640278) 115 kV/(640280) 13.8 kV transformer at the 345-kV bus. a. Apply fault at the Moore 345-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
68	FLT68-3PH	3 phase fault on the St. Joe (541199) 345 kV to St. Joe (541253) 161 kV/(541370) 13.8 kV transformer at the 345-kV bus. a. Apply fault at the St. Joe 345-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
69	FLT69-3PH	3 phase fault on the Hoskins (640226) 345 kV to Hoskins (640227) 230 kV/(643082) 13.8 kV transformer at the 345-kV bus. a. Apply fault at the Hoskins 345-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
70	FLT70-3PH	3 phase fault on the Hoskins (640227) 230 kV to Hoskins (640228) 115 kV/(643083) 13.8 kV transformer at the 230-kV bus. a. Apply fault at the Hoskins 230-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
71	FLT71-3PH	3 phase fault on the Twin Church (640386) 230 kV to Twin Church (640387) 115 kV/(643155) 13.8kV transformer at the 230-kV bus. a. Apply fault at the Twin Church 230-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer



Cont. No.	Cont. Name	Description
72	FLT72-3PH	3 phase fault on the Sioux City (652564) 345 kV to Sioux City (652565) 230 kV/(652304) 13.8 kV transformer at the 345-kV bus. a. Apply fault at the Sioux City 345-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
73	FLT73-3PH	3 phase fault on the Sioux City (652565) 230 kV to Sioux City (652566) 161 kV/(652308) 13.8 kV transformer at the 230-kV bus. a. Apply fault at the Sioux City 230-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
74	FLT74-3PH	3 phase fault on the 70&Bluff (650269) 115kV to 70&Bluff (650169) 161kV/(650369) 13.8kV transformer at the 115kV bus. a. Apply fault at the 70&Bluff 115kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
75	FLT75-3PH	3 phase fault on the Wagener (650185) 345 kV to Wagener (650285) 115 kV/(650385) 13.8 kV transformer at the 345-kV bus. a. Apply fault at the Wagener 345-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
76	FLT76-3PH	3 phase fault on the NW68Holdrg (650114) 345 kV to NW68Holdrg (650214) 115 kV/(650314) 13.8 kV transformer at the 345-kV bus. a. Apply fault at the NW68Holdrg 345-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
77	FLT77-3PH	3 phase fault on the N. Platt (640286) 230 kV to N. Platt (640287) 115 kV/(640290) 13.8 kV transformer at the 230-kV bus. a. Apply fault at the N. Platt 230-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
78	FLT78-3PH	3 phase fault on the Crooked Creek (640093) 230 kV to Crooked Creek (640094) 115 kV/(643026) 13.8 kV transformer at the 230-kV bus. a. Apply fault at the Crooked Creek 230-kV bus. b. Clear fault after 5.5 cycles by tripping the transformer
79	C3	Prior outage of Fairport (300039) - St Joe (541199) 345 kV with a 3-phase fault near Cooper (640139) on Cooper (640139) - St Joe (541199) 345 kV. Prior outage of Fairport (300039) to St.Joe (541199) 345-kV line a. Apply 3-phase fault at Cooper (640139) 345 kV b. Run for 5 cycles c. Clear fault d. Trip line from Cooper (640139) to G10-056-Tap (560663) 345 kV e. Run to 20.0 seconds
80	C11	SLG fault at the S3451 (645451) end of the S3451 (645451) -S3459 (645459) and S3451 (645451) -S3454 (645454) 345-kV lines. Normal clearing (4.5 cycles) a. Apply SLG fault at S3451 (645451) 345 kV b. Run for 4.5 cycles c. Clear fault d. Trip line from S3451 (645451) to S3459 (645459) 345 kV e. Trip line from S3451 (645451) to S3454 (645454) 345 kV f. Run to 20 seconds



Cont. No.	Cont. Name	Description
81	C12	<p>SLG fault at the S3451 (645451) end of the S3451 (645451)-Raun (635200) 345-kV line, followed by a stuck breaker and the opening (4.5cycles) of transformer T4 (64545/345 kV – 646251/161 kV – 648351/13.8 kV) at S3451.</p> <ol style="list-style-type: none"> Apply SLG fault at S3451 (645451) 345 kV Run for 4.5 cycles Trip line from S3451 (645451) to Raun (635200) 345 kV Clear fault Apply SLG fault at S3451 (645451) 345 kV Run for 10 cycles Disconnect three winding transformer (S3451 T4) at bus 645451/646251/648351 Clear fault Run to 20 seconds
82	C13	<p>SLG fault at S1206 (646206) on the S1206 (646206) - S1232 (66232) 161-kV line, followed by a stuck breaker and the opening of the S1206 (646206) - S1201 (646201) 161-kV line.</p> <ol style="list-style-type: none"> Apply SLG fault at S1206 (646206) 161 kV Run for 8.5 cycles Trip line from S1206 (646206) to S1232 (646232) 161 kV Clear fault Apply SLG fault at S1206 (646206) 161 kV Run for 10.5 cycles Trip line from S1206 (646206) to S1201 (646201) 161 kV Clear fault Run to 20 seconds

Single line-to-ground faults were simulated in a manner consistent with currently accepted practices, i.e. to assume that a single line-to-ground fault will cause a positive-sequence voltage drop at the fault location to 60% of nominal.

The prior-queued projects monitored are listed in Table 6.

Table 6: Prior-queued wind farm projects monitored

Request	Size (MW)	Generator Model	Point of Interconnection
GEN-2003-021N	75	GE 1.5 MW	Tap on the Ainsworth – Calamus 115-kV line (640050)
GEN-2004-005N	30	GE 1.5 MW	St Francis 115 kV (640351)
GEN-2004-023N	75	GENROU	Columbus 115 kV (640119)
GEN-2006-020N	42	Vestas 3.0 MW	Bloomfield 115 kV (640084)
GEN-2006-037N1	75	GE 1.5 MW	Broken Bow 115 kV (640089)
GEN-2006-038N005	79.5	GE 1.5 MW	Broken Bow 115 kV (640089)
GEN-2006-038N019	79.5	Generic wind turbine 1.5 MW	Petersburg 115 kV (640444)
GEN-2006-044N	40.5	GE 1.5 MW	Petersburg 115 kV (640444)



Request	Size (MW)	Generator Model	Point of Interconnection
GEN-2007-011N08	81	Vestas 3.0 MW	Bloomfield 115 kV (640084)
GEN-2007-015	135	GE 1.5 MW	Tap Kelly – S1399 161 kV (560610)
GEN-2008-086N02	199.5	GE 1.5 MW	Tap on the Columbus – Ft Randall 230-kV line (560006)
GEN-2008-119O	60	GE 1.5 MW	S1399 161kV (646399)
GEN-2008-123N	89.7	SMK203	Tap on the Pauline – Guide Rock 115 kV (560137)
GEN-2009-040	73.8	Vestas V90 1.8 MW	Marshall 115 kV (533349)
GEN-2010-041	10.5	GE 1.5 MW	S1399 161 kV (646399)
GEN-2010-044	99	Siemens 3.0 MW	Harbine 115 kV (640208)
GEN-2010-051	200	GE 1.6 MW	Tap on the Twin Church – Hoskins 230kV line (560347)
GEN-2011-018	73.6	Siemens 2.3 MW	Steele County 115 kV (640426)
GEN-2011-027	120	Nordex N100 2.5 MW	Hoskins 230 kV (640227)
GEN-2011-055	52.8	GE 1.6 MW	South Sterling 69 kV (S969, 647969)
GEN-2011-056	3.6 MW increase	GENSAL	Jeffrey 115 kV (640238)
GEN-2011-056A	3.6 MW increase	GENSAL	Johnson 1 115 kV (640240)
GEN-2011-056B	4.5 MW increase	GENSAL	Johnson 2 115 kV (640242)

According to the scope of work specified by SPP, the case shall also include several adjacent generating units in the WAPA system at 100% of rated power (Pmax). These generators were monitored similar to the prior-queued projects in the study. These generating units are listed in Table 7 below.

Table 7: Adjacent generating units in the WAPA system

Bus #	Bus Name	Pmax (MW)	kV	Unit ID
652546	FTRDL12G	43.0	13.8	1
652546	FTRDL12G	43.0	13.8	2
652547	FTRDL34G	43.0	13.8	3
652547	FTRDL34G	43.0	13.8	4
652548	FTRDL56G	43.0	13.8	5
652548	FTRDL56G	44.0	13.8	6
652549	FTRDL78G	44.0	13.8	7
652549	FTRDL78G	44.0	13.8	8
652575	GAVINS1G	31.0	13.8	1
652576	GAVINS2G	31.0	13.8	2
652577	GAVINS3G	30.0	13.8	3
659116	SPIRI71G	52.0	13.8	1
659117	SPIRI72G	52.0	13.8	2



Table 8 lists protection relay settings used to evaluate fault ride-through capability of the GE 1.6 MW WTG in the transient stability analysis.

Table 8: GE 1.6 MW Protection Settings

Relay Type	Trip Setting	Time Delay (sec.)
Overvoltage	1.30 (pu)	0.02
Overvoltage	1.15 (pu)	0.10
Overvoltage	1.10 (pu)	1.00
Undervoltage	0.90 (pu)	10.00
Undervoltage	0.75 (pu)	1.900
Undervoltage	0.50 (pu)	1.200
Undervoltage	0.30 (pu)	0.700
Undervoltage	0.15 (pu)	0.200
Underfrequency	56.5 (Hz)	0.02
Underfrequency	57.5 (Hz)	10.00
Overfrequency	61.5 (Hz)	30.00
Overfrequency	62.5 (Hz)	0.02

7.1. STABILITY CRITERIA

Disturbances, including three-phase and single-phase to ground faults, should not cause synchronous and asynchronous plants to become unstable or disconnect from the transmission grid.

The criterion for synchronous generator stability as defined by NERC is:

“Power system stability is defined as that condition in which the difference of the angular positions of synchronous machine rotor becomes constant following an aperiodic system disturbance.”

Voltage magnitudes and frequencies at terminals of asynchronous generators should not exceed magnitudes and durations that will cause protection elements to operate. Furthermore, the response after the disturbance needs to be studied at the terminals of the machine to insure that there are no sustained oscillations in power output, speed, frequency, etc.

Voltage magnitudes and angles after the disturbance should settle to a constant and acceptable operating level. Frequencies should settle to the nominal 60 Hz power frequency.



SPP has two specific transient stability requirements as summarized below. These requirements will be elaborated in more detail in the SPP Disturbance Performance Requirements provided in Appendix A. This document provides a basis for evaluating the system response during the initial transient period following a disturbance on the Bulk Electric System by establishing minimum requirements for machine rotor angle damping and transient voltage recovery.

- **Angular Oscillations:** for study projects that include synchronous machines, rotor angle oscillations should meet the damping requirements described in Appendix A. For other projects that do not include synchronous machines, but based on engineering judgment have questionable rotor angle oscillation, damping should also meet the requirements described in Appendix A.
- **Transient Voltage Recovery:** for the transient voltage recovery requirement in Appendix A, the bus voltages to be included are those at the point of interconnection for each study generator. Other voltages in the area should be checked for this requirement if the terminal voltage of other machines in the monitored area appears to have voltage recovery issues.

7.2. TRANSIENT STABILITY RESULTS

Undisturbed runs of 20 seconds were performed with the summer and winter peak cases to verify proper initialization of dynamic models.

Transient stability analysis indicated that Group 9 is expected to successfully ride-through each fault contingency specified by SPP and the nearby areas will retain angular, frequency and voltage stability. Group 9 can successfully interconnect into the transmission system at the desired locations without reduction in output power. See Appendix B and Appendix C.

Furthermore, Group 9 is expected to meet angular oscillation stability requirements. Note that there are several contingency cases, e.g. contingency #49 through #64, where SPP's angular oscillation requirements are not exactly met. See Appendix D. However, this is for small disturbances and does not imply any instability in the system. Figure 2 depicts the rotor angle response of study-project generators for four contingencies in the summer peak case. For instance, in contingency #48 since the disturbance occurs in the vicinity of two study projects,



changes in the rotor angle of these generators are significant. Therefore, considering the relative ratio of the 1st positive swing peak to the subsequent ones (i.e. 2nd or 5th as instructed in Appendix A) can be appropriate to evaluate the damping ratio. However, this is not the case in contingencies #49, #50 and #51. Since the disturbance is occurring in a remote location in the system, which is electrically remote from the study projects, changes in the rotor angle of the generators are small. In those cases all the rotor angle peaks are on the same order or equivalently, their relative ratio to the 1st positive swing peak is about 1.

Appendix E shows voltage and frequency at the POI of the study projects for all contingency cases. All three study projects meet SPP's transient voltage recovery requirement.

Summary results of transient stability analysis are listed in Table 9.

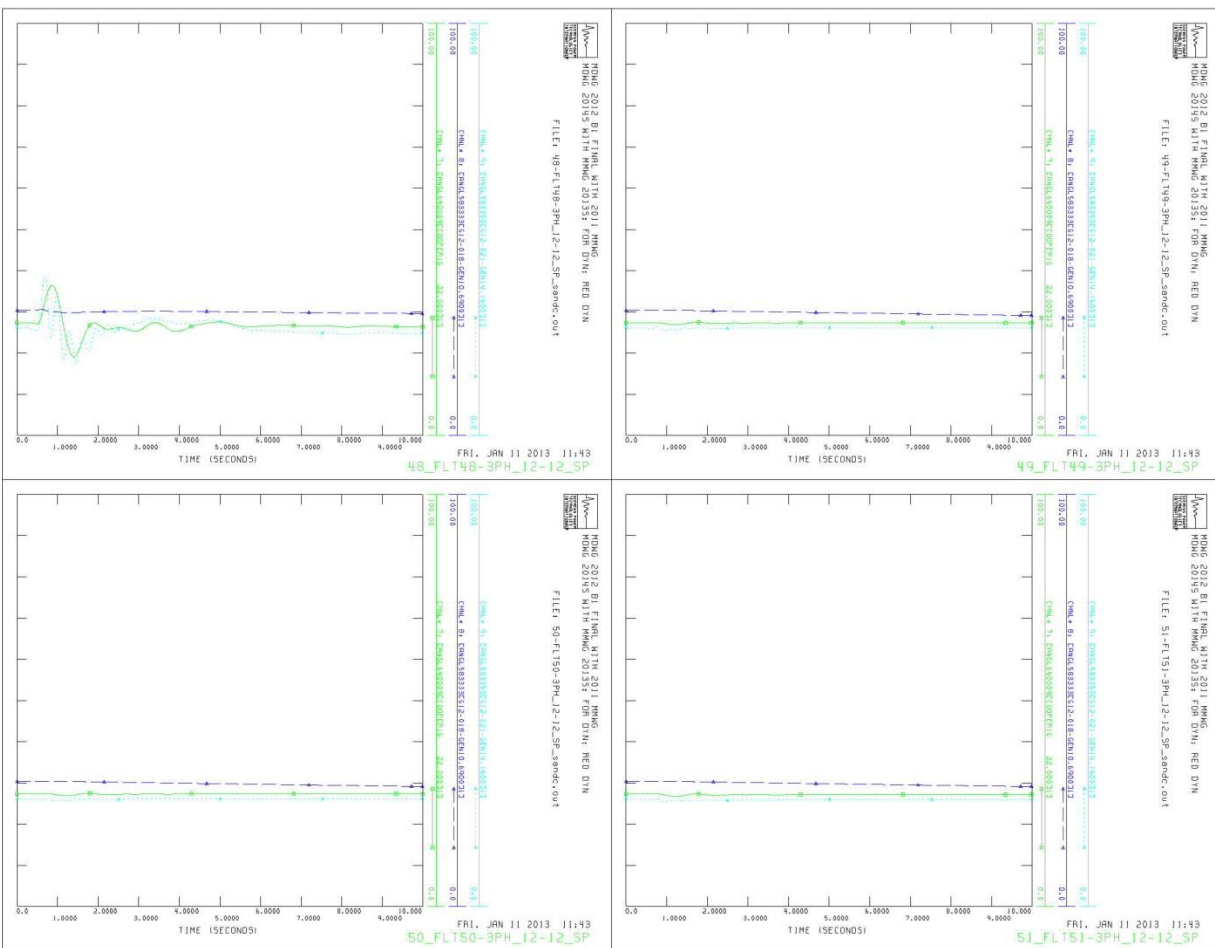


Fig.2. Rotor angle of study-project generators for contingencies #48 through #51.



Table 9: Summary of Transient Stability Results

Cont. No.	Cont. Name	Summer Peak	Winter Peak
1	FLT01-3PH	STABLE	STABLE
2	FLT02-3PH	STABLE	STABLE
3	FLT03-3PH	STABLE	STABLE
4	FLT04-3PH	STABLE	STABLE
5	FLT05-3PH	STABLE	STABLE
6	FLT06-3PH	STABLE	STABLE
7	FLT07-3PH	STABLE	STABLE
8	FLT08-3PH	STABLE	STABLE
9	FLT09-3PH	STABLE	STABLE
10	FLT10-3PH	STABLE	STABLE
11	FLT11-3PH	STABLE	STABLE
12	FLT12-3PH	STABLE	STABLE
13	FLT13-3PH	STABLE	STABLE
14	FLT14-3PH	STABLE	STABLE
15	FLT15-3PH	STABLE	STABLE
16	FLT16-3PH	STABLE	STABLE
17	FLT17-3PH	STABLE	STABLE
18	FLT18-3PH	STABLE	STABLE
19	FLT19-3PH	STABLE	STABLE
20	FLT20-3PH	STABLE	STABLE
21	FLT21-3PH	STABLE	STABLE
22	FLT22-3PH	STABLE	STABLE
23	FLT23-3PH	STABLE	STABLE
24	FLT24-3PH	STABLE	STABLE
25	FLT25-3PH	STABLE	STABLE
26	FLT26-3PH	STABLE	STABLE
27	FLT27-3PH	STABLE	STABLE
28	FLT28-3PH	STABLE	STABLE
29	FLT29-3PH	STABLE	STABLE
30	FLT30-3PH	STABLE	STABLE
31	FLT31-3PH	STABLE	STABLE
32	FLT32-3PH	STABLE	STABLE
33	FLT33-3PH	STABLE	STABLE
34	FLT34-3PH	STABLE	STABLE
35	FLT35-3PH	STABLE	STABLE
36	FLT36-3PH	STABLE	STABLE
37	FLT37-3PH	STABLE	STABLE
38	FLT38-3PH	STABLE	STABLE
39	FLT39-3PH	STABLE	STABLE
40	FLT40-3PH	STABLE	STABLE
41	FLT41-3PH	STABLE	STABLE
42	FLT42-3PH	STABLE	STABLE
43	FLT43-3PH	STABLE	STABLE
44	FLT44-3PH	STABLE	STABLE



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Cont. No.	Cont. Name	Summer Peak	Winter Peak
45	FLT45-3PH	STABLE	STABLE
46	FLT46-3PH	STABLE	STABLE
47	FLT47-3PH	STABLE	STABLE
48	FLT48-3PH	STABLE	STABLE
49	FLT49-3PH	STABLE	STABLE
50	FLT50-3PH	STABLE	STABLE
51	FLT51-3PH	STABLE	STABLE
52	FLT52-3PH	STABLE	STABLE
53	FLT53-3PH	STABLE	STABLE
54	FLT54-3PH	STABLE	STABLE
55	FLT55-3PH	STABLE	STABLE
56	FLT56-3PH	STABLE	STABLE
57	FLT57-3PH	STABLE	STABLE
58	FLT58-3PH	STABLE	STABLE
59	FLT59-3PH	STABLE	STABLE
60	FLT60-3PH	STABLE	STABLE
61	FLT61-3PH	STABLE	STABLE
62	FLT62-3PH	STABLE	STABLE
63	FLT63-3PH	STABLE	STABLE
64	FLT64-3PH	STABLE	STABLE
65	FLT65-3PH	STABLE	STABLE
66	FLT66-3PH	STABLE	STABLE
67	FLT67-3PH	STABLE	STABLE
68	FLT68-3PH	STABLE	STABLE
69	FLT69-3PH	STABLE	STABLE
70	FLT70-3PH	STABLE	STABLE
71	FLT71-3PH	STABLE	STABLE
72	FLT72-3PH	STABLE	STABLE
73	FLT73-3PH	STABLE	STABLE
74	FLT74-3PH	STABLE	STABLE
75	FLT75-3PH	STABLE	STABLE
76	FLT76-3PH	STABLE	STABLE
77	FLT77-3PH	STABLE	STABLE
78	FLT78-3PH	STABLE	STABLE
79	C3	STABLE	STABLE
80	C11	STABLE	STABLE
81	C12	STABLE	STABLE
82	C13	STABLE	STABLE



8. CONCLUSIONS AND RECOMMENDATIONS

Group 9 and prior-queued projects were studied at 100% output power using “SPP MDWG 2012 B1 FINAL WITH 2011 MMWG” summer and winter peak loading cases provided by SPP.

The results of power factor analysis indicated that wind generation study project GEN-2012-018 is required to maintain power factor of 99% lagging to 99% leading at the POI.

Transient analysis results indicate that DISIS-2012-002 (Group 9) projects are expected to successfully interconnect into the transmission system at 100% output power and at the desired locations. Transient stability analysis also indicate that Group 9 is expected to ride-through each N-1 and N-2 fault contingency specified by SPP and the nearby areas will retain angular, frequency and voltage stability. Thus, Group 9 is expected to meet SPP’s angular oscillation stability and transient voltage recovery requirement.

P: Power Flow Analysis (Constraints from Category C Contingencies)

See next page

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
NCONV	FNSL-Blown up	00NR		3 18WP	G12_016		'G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1'	0	0.0725	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 13SP	G12_017		'BKR-CPR-3310'	0	1.1525	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 18SP	G12_017		'BKR-CPR-3310'	0	1.157	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 18WP	G12_017		'BKR-CPR-3310'	0	1.1584	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 23SP	G12_017		'BKR-CPR-3310'	0	1.159	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_017		2 13SP	G12_017		'BKR-CPR-3310'	0	1.1525	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_017		2 18WP	G12_017		'BKR-CPR-3310'	0	1.1584	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 13SP	G12_017		'KCPL-C3'	0	0.343	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_017		2 13SP	G12_017		'KCPL-C3'	0	0.343	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 13SP	G12_017		'MIDW-CATD02B'	0	0.0343	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 13SP	G12_018		'KCPL-C3'	0	0.2259	9999	'BASE CASE'	
NCONV	FNSL-Blown up	09G12_018		2 13G	G12_018		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0321	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 13SP	G12_018		'MIDW-CATD02B'	0	0.0436	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_018		2 13SP	G12_018		'MIDW-CATD02B'	0	0.0435	9999	'BASE CASE'	
NCONV	FNSL-Blown up	09G12_018		2 13G	G12_018		'MIDW-CATD02B'	0	0.0442	9999	'BASE CASE'	
NCONV	FNSL-Blown up	09G12_018B PSON		2 13G	G12_018		'MIDW-CATD02B'	0	0.0436	9999	'BASE CASE'	
NCONV	FNSL-Singular jacobian or 0.0	0		2 18SP	G12_020		'CARLISLE INTERCHANGE - LUBBOCK POWER & LIGHT-MILWAUKEE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	0	0.031	9999	'BASE CASE'	
NCONV	FNSL-Singular jacobian or 0.0	00G12_020		2 13SP	G12_020		'CARLISLE INTERCHANGE - LUBBOCK POWER & LIGHT-MILWAUKEE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	0	0.031	9999	'BASE CASE'	
NCONV	FNSL-Singular jacobian or 0.0	00G12_020		2 18SP	G12_020		'CARLISLE INTERCHANGE - LUBBOCK POWER & LIGHT-MILWAUKEE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	0	0.0311	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_020		2 18WP	G12_020		'CARLISLE INTERCHANGE - LUBBOCK POWER & LIGHT-MILWAUKEE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	0	0.0318	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_020		2 13SP	G12_020		'OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1'	0	0.5991	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_020		2 13WP	G12_020		'OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1'	0	0.6007	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_020		2 18WP	G12_020		'OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1'	0	0.5886	9999	'BASE CASE'	
NCONV	FNSL-Blown up	06G12_020		2 13G	G12_020		'OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1'	0	0.5889	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 13SP	G12_021		'KCPL-C3'	0	0.2559	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_021		2 13SP	G12_021		'KCPL-C3'	0	0.2559	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 13WP	G12_021		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0319	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2 13SP	G12_021		'MIDW-CATD02B'	0	0.0473	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_021		2 18SP	G12_021		'MIDW-CATD02B'	0	0.0438	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_023		2 23SP	G12_023		'HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'	0	1	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_023		2 13WP	G12_023		'ROSE HILL - WOLF CREEK 345KV CKT 1 &ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1'	0	0.0447	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_023		2 18WP	G12_023		'ROSE HILL - WOLF CREEK 345KV CKT 1 &ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1'	0	0.0438	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_023		2 18SP	G12_023		'VIOLA 7 345.00 - WICHITA 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1'	0	1.657	9999	'BASE CASE'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
NCONV	FNSL-Blown up	00G12_023		2	13SP		0 'WDRNG383'	0	1.389	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03G12_024		2	13G		0 'CLARKCOUNTY7345.00 - G11_023_1 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1'	0	1	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	13SP		0 'CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1'	0	1	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	18SP		0 'CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1'	0	1	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	18WP		0 'CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1'	0	1	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	23SP		0 'CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1'	0	1	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03G12_024		2	13G		0 'CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1'	0	1	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	13WP		0 'CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.279	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	13WP		0 'CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.279	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	13SP		0 'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.2218	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	18SP		0 'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.2207	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03G12_024		2	13G		0 'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.2218	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	13SP		0 'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.2218	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	18SP		0 'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.2207	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03G12_024		2	13G		0 'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.2218	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03G12_024		2	13G		0 'G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1'	0	0.2179	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2	13SP		0 'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.0303	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2	18SP		0 'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.0337	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2	23SP		0 'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.0352	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	18SP		0 'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.0328	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	23SP		0 'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.0345	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2	13WP		0 'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0449	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2	18WP		0 'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0453	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_024		2	13WP		0 'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0447	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03G12_024		2	13G		0 'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.047	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR		3	13G		0 'CLARKCOUNTY7345.00 - G11_023_1 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1'	0	1	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR		3	13G		0 'CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1'	0	1	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR		3	13G		0 'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.1231	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR		3	13G		0 'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.1231	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR		3	13G		0 'G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1'	0	0.0438	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00NR		3	18WP		0 'G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1'	0	0.1019	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR		3	13G		0 'G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1'	0	0.0876	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR		3	13G		0 'MIDW-CATD02B'	0	0.0329	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0		2	13SP		0 'KCPL-C3'	0	0.0338	9999	'BASE CASE'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
NCONV	FNSL-Blown up	0	2	13WP	G12_026		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0965	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	18WP	G12_026		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.09	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_026	2	13WP	G12_026		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0965	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_026	2	18WP	G12_026		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.09	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	18WP	G12_026		'SMKYP1 6 230.00 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.045	9999	'BASE CASE'	
NCONV	FNSL-Blown up	04NR	3	13G	G12_026		'HAYS WIND - SOUTH HAYS 230KV CKT 1 &MULLERGREN - SOUTH HAYS 230KV CKT 1'	0	0.0326	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00NR	3	13SP	G12_026		'KCPL-C3'	0	0.0443	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00NR	3	23SP	G12_026		'KCPL-C3'	0	0.0344	9999	'BASE CASE'	
NCONV	FNSL-Blown up	04NR	3	13G	G12_026		'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1 &G08-92 230.00 - KNOLL 230 230KV CKT 1'	0	0.1003	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00NR	3	13WP	G12_026		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0407	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00NR	3	18WP	G12_026		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0335	9999	'BASE CASE'	
NCONV	FNSL-Blown up	04NR	3	13G	G12_026		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0395	9999	'BASE CASE'	
NCONV	FNSL-Blown up	04NR	3	13G	G12_026		'MULLERGREN - SOUTH HAYS 230KV CKT 1 &G09-08 230.00 - SOUTH HAYS 230KV CKT 1'	0	0.0326	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	23SP	G12_034		'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	0	0.0807	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_034	2	23SP	G12_034		'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	0	0.0807	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	23SP	G12_035		'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	0	0.0807	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_035	2	23SP	G12_035		'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	0	0.0807	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	23SP	G12_036		'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	0	0.0807	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_036	2	23SP	G12_036		'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	0	0.0807	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	13SP	G12_042		'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.0361	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	18SP	G12_042		'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.0394	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	23SP	G12_042		'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.0408	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_042	2	13SP	G12_042		'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.035	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_042	2	18SP	G12_042		'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.038	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_042	2	23SP	G12_042		'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1'	0	0.0397	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	13WP	G12_042		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0588	9999	'BASE CASE'	
NCONV	FNSL-Blown up	0	2	18WP	G12_042		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0589	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_042	2	13WP	G12_042		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0585	9999	'BASE CASE'	
NCONV	FNSL-Blown up	00G12_042	2	18WP	G12_042		'KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	0	0.0586	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR	3	13G	G12_042		'CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.0501	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR	3	13G	G12_042		'CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.0501	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR	3	13G	G12_042		'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.0501	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR	3	13G	G12_042		'CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1'	0	0.0501	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR	3	13G	G12_042		'G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1'	0	0.0679	9999	'BASE CASE'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
NCONV	FNSL-Blown up	00NR		3 18WP	G12_042		'G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1'	0	0.1509	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR		3 13G	G12_042		'G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1'	0	0.1357	9999	'BASE CASE'	
NCONV	FNSL-Blown up	03NR		3 13G	G12_042		'MIDW-CATD02B'	0	0.0376	9999	'BASE CASE'	
	FDNS		0	2 13SP	ASGI_12_002	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0415	125.7109	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS		0	2 18SP	ASGI_12_002	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0731	110.8698	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1'	
	FDNS		0	2 23SP	ASGI_12_002	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0638	103.0682	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.1428	122.3162	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 23SP	ASGI_12_002	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.1034	114.5696	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 18SP	ASGI_12_002	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.1065	108.3642	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'DEAF SMITH REC-#20 - DEAF SMITH REC-#24 115KV CKT 1'	99	0.1428	101.6592	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.1182	101.2896	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0648	132.3417	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1103	129.2351	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0401	127.9698	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0465	125.8476	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0401	123.9685	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0401	123.7221	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0398	121.8968	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0398	120.5284	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0835	120.2116	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0518	115.5711	'BASE CASE'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0641	114.6655	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0835	110.5872	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0835	109.9396	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0641	107.4208	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0858	107.1065	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0641	106.972	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.084	105.6342	'Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0828	105.6162	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0831	105.4516	'TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0643	105.0704	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0686	104.7576	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0635	103.7054	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'	
	FDNS		0	2 13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0528	103.6187	'Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0	2	13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0856	103.2719	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0643	102.2797	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.052	101.9686	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1'	
	FDNS	0	2	13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0518	101.4868	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	18SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0624	101.3144	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0518	101.136	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0637	101.1205	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	ASGI_12_002	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.053	101.002	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0363	125.8174	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0363	125.7109	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	0	2	18SP	G12_015	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0725	110.8698	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1'	
	FDNS	00G12_015	2	18SP	G12_015	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0725	110.8696	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1'	
	FDNS	0	2	23SP	G12_015	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0633	103.0682	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1'	
	FDNS	00G12_015	2	23SP	G12_015	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0634	100.8085	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.1566	122.3162	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.1566	122.3111	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	23SP	G12_015	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.1069	114.5696	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	23SP	G12_015	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.1069	113.8461	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	18SP	G12_015	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.11	108.3642	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	18SP	G12_015	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.11	108.3641	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'DEAF SMITH REC-#20 - DEAF SMITH REC-#24 115KV CKT 1'	99	0.1566	101.6592	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'DEAF SMITH REC-#20 - DEAF SMITH REC-#24 115KV CKT 1'	99	0.1566	101.652	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'TO->FROM'	'PLANT X STATION - TOLK STATION WEST 230KV CKT 1'	502	0.4855	108.9043	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	239	0.0868	121.9416	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	239	0.0868	121.66	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	239	0.0702	102.1007	'LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1 &TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	239	0.0702	102.056	'LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1 &TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	239	0.0827	102.021	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	239	0.0827	101.9753	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.1134	101.6146	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.1135	101.2896	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	239	0.1078	101.1427	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	239	0.1078	101.0982	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	239	0.0675	100	'TOLK STATION TAP - TOLK STATION WEST 230KV CKT 1 &LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0641	132.3417	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0641	132.0616	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1092	129.2351	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1092	128.7528	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0397	127.9698	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0397	127.5347	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.046	125.8476	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.046	125.3326	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0397	123.9685	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0397	123.7221	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0397	123.5563	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0397	123.3121	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0393	121.8968	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0393	121.4625	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0394	120.5284	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0827	120.2116	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0394	120.0653	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0827	119.7776	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0512	115.5711	'BASE CASE'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0513	114.8083	'BASE CASE'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0634	114.6655	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0635	113.9312	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	06G12_015	2	13G	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0802	113.4	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0827	110.5872	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0827	110.1848	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0827	109.9396	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0827	109.5365	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0634	107.4208	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0849	107.1065	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0634	106.972	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0849	106.7259	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0635	106.6811	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0635	106.296	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0831	105.6342	'Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.082	105.6162	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0823	105.4516	'TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0831	105.2281	'Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.082	105.2135	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0635	105.0704	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0823	104.9869	'TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0673	104.7576	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0636	104.2782	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0674	104.2059	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0628	103.7054	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0522	103.6187	'Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0848	103.2719	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0522	103.0058	'Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0628	102.9682	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0848	102.9077	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0636	102.2797	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0514	101.9686	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0637	101.5447	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0512	101.4868	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0515	101.3703	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1'	
	FDNS	00G12_015	2	18SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0621	101.3146	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	18SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0621	101.3144	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0512	101.136	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0631	101.1205	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0524	101.002	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0513	100.8961	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0513	100.5453	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0631	100.3961	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_015	2	13SP	G12_015	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0525	100.3818	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'	
	FDNS	00NR	3	23SP	G12_015	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.0964	108.6901	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00NR	3	13SP	G12_015	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.1427	108.1771	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	06NR	3	13G	G12_015	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.1897	107.4263	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &PLANT X STATION - TOLK STATION WEST 230KV CKT 1'	
	FDNS	06NR	3	13G	G12_015	'TO->FROM'	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2'	502	0.1551	102.8318	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	06NR	3	13G	G12_015	'TO->FROM'	'PLANT X STATION - TOLK STATION WEST 230KV CKT 1'	502	0.2856	127.9029	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	06NR		3	13G	G12_015	'FROM->TO'	'SUNDOWN INTERCHANGE - WOLFFORTH INTERCHANGE 230KV CKT 1'	351	0.0969	107.24	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	06NR		3	13G	G12_015	'FROM->TO'	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'	502	0.1013	100.329	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	18WP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0306	118.203	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_016		2	18WP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0306	118.2028	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_016		2	13WP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.031	114.1094	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS		0	2	13WP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.031	113.95	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	438	0.049	111.8885	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	438	0.0447	110.1032	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	438	0.0568	106.4672	'BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	438	0.041	105.4012	'BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	438	0.0444	100.4181	'RENO COUNTY - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0364	134.0277	'DBLCCT3'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0361	132.7216	'DBLCCT3'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0361	129.3021	'DBLCCT4'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0511	125.5163	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0356	121.8022	'PLVAL138KV'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0675	120.1601	'DBLCCT3'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0478	118.7612	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0352	116.5304	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0327	115.9764	'PLVAL138KV'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0671	115.0396	'CIMARRON - NORTHWEST 345KV CKT 1 &MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0511	114.9204	'DVISN138PCBB'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0656	114.679	'DBLCCT3'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0335	114.1989	'PLVAL138KV'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0679	113.864	'DBLCCT3'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0568	112.4644	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.03	112.1189	'DBLCCT4'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0571	110.9775	'DVISN138PCBA'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0759	109.8936	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0501	109.1751	'BUS23'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0679	109.0666	'DBLCCT4'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0502	108.9197	'DBLCCT3'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0489	108.3545	'DVISN138PCBB'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0417	108.077	'MEMRL138PCB'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		
								(MVA)	TDF	(%MVA)	CONTINGENCY	
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0339	107.9431	'DVISN138PCBA'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0317	107.342	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0559	106.1709	'BUS23'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0651	106.0088	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0502	105.7312	'DBLCCT4'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0542	105.6872	'DBLCCT4'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0517	105.4728	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.034	105.0571	'ARCADIA - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0319	103.8254	'BUS23'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0481	103.6118	'BUS23'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0307	103.3319	'MATTHEWSON 345.00 - WOODRING 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0587	103.2515	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0468	103.0049	'MEMRL138PCB'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0312	102.826	'NOWST382'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0473	102.3106	'DBLCCT5'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0532	102.0805	'CMARN186'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0536	101.7921	'CMARN384'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0536	101.7921	'DBLCCT8'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0419	101.6342	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.04	101.2114	'MEMRL138PCB'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.047	101.1997	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.047	101.1902	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 2'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.047	101.1191	'DRAPR384'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0382	101.0447	'DBLCCT29'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0471	100.9912	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 3'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.053	100.9742	'CIMARRON - MINCO 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0459	100.8916	'CMARN384'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0459	100.8916	'DBLCCT8'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0391	100.8383	'GEN514859 1-MUSTANG 4G'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0471	100.7381	'DBLCCT6'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0473	100.6484	'DBLCCT7'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0523	100.5198	'DBLCCT4'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0452	100	'CIMARRON - MINCO 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	956	0.1575	102.2755	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		
								(MVA)	TDF	(%MVA)	CONTINGENCY	
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0587	163.4216	'CIMARRONR'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0605	159.1491	'CIMARRONR'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0558	157.7227	'CIMARRONR'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0484	140.9786	'CIMARRONR'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	375	0.0371	137.4289	'CIMARRONR'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	375	0.037	135.7417	'CIMARRONR'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0469	132.6102	'DBLCCT37'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0611	126.2534	'CIMARRON - NORTHWEST 345KV CKT 1 &MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0452	121.6003	'DBLCCT37'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0628	117.1404	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0456	117.0833	'DBLCCT37'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0688	115.4781	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0591	112.3753	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0369	107.4972	'DBLCCT37'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.037	102.177	'DBLCCT3'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	375	0.0622	101.5954	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'CIMARRON - MATHWSN7 345.00 345KV CKT 1'	956	0.3055	117.6472	'MATHWSN7 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATHWSN7 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.2423	141.0459	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.2441	140.3934	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13SP	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.3417	133.692	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	01NR		3	13G	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.2797	121.6872	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	18SP	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.2807	115.4276	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.2423	141.0459	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.2441	140.3934	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.3417	133.692	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	01NR		3	13G	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.2797	121.6872	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.2807	115.4276	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0303	122.3202	'CMARN185'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0392	117.3235	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0314	115.683	'DBLCCT7'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0345	114.6048	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0345	114.5907	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0346	114.5454	'DRAPR384'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0351	114.1402	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 3'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING	
								(MVA)	TDF	(%MVA)	CONTINGENCY
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0327	113.888	'CMARN384'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0327	113.888	'DBLCCT8'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.032	112.6515	'DBLCCT6'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0316	112.3246	'CIMARRON - MINCO 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0348	112.1646	'CIMARRON - DRAPER LAKE 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0348	112.1646	'CIMARRON - DRAPER LAKE 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0343	105.3027	'CMARN385'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0346	100.9812	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 18WP	G12_016	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.0337	186.9293	'THISTLE7 345.00 - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3 13WP	G12_016	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.0341	185.5073	'THISTLE7 345.00 - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3 23SP	G12_016	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.0339	177.2426	'THISTLE7 345.00 - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3 18SP	G12_016	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.032	163.5425	'THISTLE7 345.00 - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	01NR		3 13G	G12_016	'TO->FROM'	'CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1'	153	0.0478	107.9552	'MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 & MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2'
	FDNS	00NR		3 13SP	G12_016	'TO->FROM'	'CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1'	153	0.0479	107.7634	'MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 & MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2'
	FDNS	00NR		3 18SP	G12_016	'TO->FROM'	'CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1'	153	0.047	100.8145	'MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 & MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0364	125.9766	'DBLCCT3'
	FDNS	00NR		3 13WP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0361	124.602	'DBLCCT3'
	FDNS	00NR		3 13WP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0361	121.2088	'DBLCCT4'
	FDNS	00NR		3 13WP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0511	117.5087	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0478	110.8143	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 23SP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0356	109.7224	'PLVAL138KV'
	FDNS	00NR		3 13WP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0352	108.4736	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3 23SP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0675	108.1091	'DBLCCT3'
	FDNS	01NR		3 13G	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0568	104.9059	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 18SP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0327	104.7329	'PLVAL138KV'
	FDNS	00NR		3 18WP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.03	104.1189	'DBLCCT4'
	FDNS	00NR		3 18SP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0656	103.4514	'DBLCCT3'
	FDNS	00NR		3 23SP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0671	103.0401	'CIMARRON - NORTHWEST 345KV CKT 1 & MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 13SP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0335	102.8861	'PLVAL138KV'
	FDNS	00NR		3 23SP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0511	102.7448	'DVISN138PCBB'
	FDNS	00NR		3 13SP	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0679	102.5531	'DBLCCT3'
	FDNS	01NR		3 13G	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0502	101.3331	'DBLCCT3'
	FDNS	01NR		3 13G	G12_016	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0339	100.245	'DVISN138PCBA'
	FDNS	00NR		3 23SP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0587	153.1919	'CIMARRONR'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00NR	3	13SP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0605	151.1951	'CIMARRONR'	
	FDNS	00NR	3	18SP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0558	149.0483	'CIMARRONR'	
	FDNS	01NR	3	13G	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0484	135.7421	'CIMARRONR'	
	FDNS	00NR	3	18WP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	375	0.0371	132.3776	'CIMARRONR'	
	FDNS	00NR	3	13WP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	375	0.037	131.1138	'CIMARRONR'	
	FDNS	00NR	3	23SP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0469	122.4418	'DBLCCT37'	
	FDNS	00NR	3	23SP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0611	116.1907	'CIMARRON - NORTHWEST 345KV CKT 1 &MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'	
	FDNS	00NR	3	18SP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0452	113.0095	'DBLCCT37'	
	FDNS	01NR	3	13G	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0628	112.0132	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	
	FDNS	00NR	3	13SP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0456	109.2228	'DBLCCT37'	
	FDNS	00NR	3	13SP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0688	107.7432	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	
	FDNS	00NR	3	18SP	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0591	103.887	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	
	FDNS	01NR	3	13G	G12_016	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0369	102.3079	'DBLCCT37'	
	FDNS	00NR	3	13SP	G12_016	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0617	124.1777	'CIMARRONR'	
	FDNS	01NR	3	13G	G12_016	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0356	121.7552	'CIMARRONR'	
	FDNS	00NR	3	18SP	G12_016	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0565	118.6773	'CIMARRONR'	
	FDNS	00NR	3	23SP	G12_016	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0581	116.7593	'CIMARRONR'	
	FDNS	00NR	3	13WP	G12_016	'TO->FROM'	'DOVER SW - OKEENE 138KV CKT 1'	143	0.0447	102.9774	'MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2'	
	FDNS	00NR	3	18WP	G12_016	'TO->FROM'	'DOVER SW - OKEENE 138KV CKT 1'	143	0.0439	101.2484	'MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2'	
	FDNS	01NR	3	13G	G12_016	'TO->FROM'	'EL RENO - ROMAN NOSE 138KV CKT 1'	153	0.0466	105.4538	'MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2'	
	FDNS	00NR	3	23SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.049	133.2078	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0447	131.1755	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0568	126.9867	'BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.041	125.7616	'BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0444	120.0456	'RENO COUNTY - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'	
	FDNS	00NR	3	18SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0475	117.2911	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0399	116.9233	'BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0399	116.9233	'BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'	
	FDNS	00NR	3	18SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0433	116.6389	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'	
	FDNS	00NR	3	13SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0386	114.1749	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'	
	FDNS	00NR	3	13SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0426	113.7025	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'	
	FDNS	00NR	3	18SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0544	112.4337	'BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'	
	FDNS	00NR	3	18SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0398	111.4531	'BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'	
	FDNS	00NR	3	13SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0356	109.1618	'BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.047	108.6232	'BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0429	105.4661	'RENO COUNTY - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0387	103.1613	'BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0387	103.1613	'BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0385	101.4927	'RENO COUNTY - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0347	100.3376	'BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0347	100.3376	'BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'FLATRDG3 - THISTLE4 138.00 138KV CKT 1'	286	0.0501	108.2454	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'FPL SWITCH - MOORELAND 138KV CKT 1'	287	0.1042	107.7171	'MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1 &MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0602	101.3129	'CIMARRONR'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0602	100	'CIMARRONR'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0337	223.8405	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0341	221.8101	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0339	216.7614	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.032	200.3144	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0324	120.8971	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0323	120.4846	'G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0405	112.3242	'THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0317	109.9587	'G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0317	109.7794	'G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 345.00 - G12-016 TAP 345.00 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0337	109.9681	'SWISSVALE - WEST GARDNER 345KV CKT 1 &LACYGNE - WEST GARDNER 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0358	107.3065	'EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &SWISSVALE - WEST GARDNER 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.033	106.8483	'SWISSVALE - WEST GARDNER 345KV CKT 1 &CRAIG - WEST GARDNER 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.033	105.6448	'SWISSVALE - WEST GARDNER 345KV CKT 1 &LACYGNE - WEST GARDNER 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.034	104.8471	'KCPL-CROW#01'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.034	104.7715	'SWISSVALE - WEST GARDNER 345KV CKT 1 &STILWELL - WEST GARDNER 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.034	104.7528	'KCPL-CROW#02'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0322	103.9077	'EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0351	103.2402	'EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &SWISSVALE - WEST GARDNER 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0323	102.8423	'SWISSVALE - WEST GARDNER 345KV CKT 1 &CRAIG - WEST GARDNER 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0316	102.0725	'EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &SWISSVALE - WEST GARDNER 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0333	101.2062	'KCPL-CROW#01'
	FDNS	00NR		3	18SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0333	101.1722	'SWISSVALE - WEST GARDNER 345KV CKT 1 &STILWELL - WEST GARDNER 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0333	101.1533	'KCPL-CROW#02'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		
								(MVA)	TDF	(%MVA)	CONTINGENCY	
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0306	100.0885	'AXTELL - POST ROCK 345KV CKT 1 &AXTELL - SWEETWATER 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0307	100	'BKR-AXT-3308'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'LONEOAK - QUAIL CREEK 138KV CKT 1'	308	0.03	103.5078	'NOWST113'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'MAIZE - MAIZEE 4 138.00 138KV CKT 1'	478	0.049	102.5262	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'MAIZE - MAIZEE 4 138.00 138KV CKT 1'	478	0.0447	100.8895	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'MAIZE - MAIZEW 4 138.00 138KV CKT 1'	478	0.049	106.4562	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'MAIZE - MAIZEW 4 138.00 138KV CKT 1'	478	0.0447	104.8331	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'MAIZE - MAIZEW 4 138.00 138KV CKT 1'	478	0.0568	101.4844	'BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'TO->FROM'	'MAIZE - MAIZEW 4 138.00 138KV CKT 1'	478	0.041	100.5054	'BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'	1195	0.339	104.0676	'CIMARRON - MATHWSN7 345.00 345KV CKT 1 &CIMARRON - MATHWSN7 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.2867	128.1844	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.2886	127.6884	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.3929	119.9665	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.3238	111.86	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.2744	107.3968	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.272	105.2397	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.3237	103.644	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_016	'FROM->TO'	'MORGAN - MUSTANG 138KV CKT 1'	444	0.0364	106.351	'DBLCCT3'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'MORGAN - MUSTANG 138KV CKT 1'	444	0.0361	105.1747	'DBLCCT3'
	FDNS	00NR		3	13WP	G12_016	'FROM->TO'	'MORGAN - MUSTANG 138KV CKT 1'	444	0.0361	102.2657	'DBLCCT4'
	FDNS	00NR		3	18WP	G12_016	'TO->FROM'	'MORGAN - XEROX 138KV CKT 1'	478	0.0364	100.4598	'DBLCCT3'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.046	132.9067	'MSTNG186'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0391	125.651	'MSTNG186'
	FDNS	00NR		3	23SP	G12_016	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0445	122.1223	'MSTNG186'
	FDNS	01NR		3	13G	G12_016	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0331	118.4343	'MSTNG186'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0325	109.1192	'DVISN138PCBA'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.035	108.0041	'BUS23'
	FDNS	00NR		3	18SP	G12_016	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0303	103.2089	'BUS23'
	FDNS	00NR		3	13SP	G12_016	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0381	103.1177	'CIMARRONR'
	FDNS	01NR		3	13G	G12_016	'TO->FROM'	'ROMAN NOSE - SOUTHARD 138KV CKT 1'	153	0.0466	110.1773	'MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2'
	FDNS	00G12_017		2	13SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1252	112.0713	'KCPL-C2'
	FDNS	0		2	13SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1252	112.0191	'KCPL-C2'
	FDNS	00G12_017		2	13SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1252	111.3204	'KCPLB-6'
	FDNS	0		2	13SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1252	111.2669	'KCPLB-6'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00G12_017		2 13SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1252	110.2802		'KCPL-C2'
	FDNS	0		2 13SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1252	110.2284		'KCPL-C2'
	FDNS	00G12_017		2 13SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1252	109.5414		'KCPLB-6'
	FDNS	0		2 13SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1252	109.4884		'KCPLB-6'
	FDNS	0		2 23SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0985	106.4122		'KCPL-C2'
	FDNS	0		2 18SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1017	106.2001		'KCPL-C2'
	FDNS	00G12_017		2 18SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1017	106.2001		'KCPL-C2'
	FDNS	00G12_017		2 23SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0985	106.1858		'KCPL-C2'
	FDNS	0		2 23SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0985	105.7001		'KCPLB-6'
	FDNS	00G12_017		2 18SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1017	105.4738		'KCPLB-6'
	FDNS	0		2 18SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1017	105.4737		'KCPLB-6'
	FDNS	00G12_017		2 23SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0985	105.4724		'KCPLB-6'
	FDNS	0		2 23SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0985	104.6691		'KCPL-C2'
	FDNS	0		2 18SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1017	104.4916		'KCPL-C2'
	FDNS	00G12_017		2 18SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1017	104.4916		'KCPL-C2'
	FDNS	00G12_017		2 23SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0985	104.4383		'KCPL-C2'
	FDNS	0		2 23SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0985	103.9675		'KCPLB-6'
	FDNS	0		2 18SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1017	103.7763		'KCPLB-6'
	FDNS	00G12_017		2 18SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.1017	103.7763		'KCPLB-6'
	FDNS	00G12_017		2 23SP	G12_017	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0985	103.7384		'KCPLB-6'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'G10-51T 230.00 - HOSKINS 230KV CKT 1'	192	0.356	112.7719		'BKR-HOS-3312'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'G10-51T 230.00 - HOSKINS 230KV CKT 1'	192	0.3971	102.9891		'CSPT-GIF-KFR'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'G10-51T 230.00 - HOSKINS 230KV CKT 1'	192	0.2531	101.8385		'BKR-HOS-3310'
	FDNS	00G12_018		2 18SP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.6509		'BUS-TWNCRH-S'
	FDNS	00G12_018		2 18SP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.6406		'CSPT-HR-HTC'
	FDNS	00G12_018		2 18SP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.6341		'G10-51T 230.00 - HOSKINS 230KV CKT 1 & G10-51T 230.00 - TWIN CHURCH 230KV CKT 1'
	FDNS	00G12_018		2 13WP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.3755		'BUS-TWNCRH-S'
	FDNS	00G12_018		2 13WP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.3653		'G10-51T 230.00 - HOSKINS 230KV CKT 1 & G10-51T 230.00 - TWIN CHURCH 230KV CKT 1'
	FDNS	00G12_018		2 13WP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.3517		'CSPT-HR-HTC'
	FDNS	00G12_018		2 18WP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.2925		'BUS-TWNCRH-S'
	FDNS	00G12_018		2 18WP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.276		'G10-51T 230.00 - HOSKINS 230KV CKT 1 & G10-51T 230.00 - TWIN CHURCH 230KV CKT 1'
	FDNS	00G12_018		2 18WP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.2688		'CSPT-HR-HTC'
	FDNS	09G12_018B PSON		2 13G	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.158		'CSPT-HR-HTC'
	FDNS	09G12_018B PSON		2 13G	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.149		'BUS-TWNCRH-S'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	09G12_018B PSON		2 13G	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.146		'G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1'
	FDNS	09G12_018		2 13G	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.1457		'BUS-TWNCRH-S'
	FDNS	09G12_018		2 13G	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.1421		'G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1'
	FDNS	09G12_018		2 13G	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.1315		'CSPT-HR-HTC'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.0224		'BUS-TWNCRH-S'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.0085		'BUS-TWNCRH-S'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	127.0081		'G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	126.9953		'CSPT-HR-HTC'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	126.9934		'G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'G10-51T 230.00 - RASMUSN 230KV CKT 1'	320	1	126.9828		'CSPT-HR-HTC'
	FDNS	00G12_018		2 13SP	G12_018	'TO->FROM'	'GLADSTONE - SHOAL CREEK 161KV CKT 1'	224	0.0323	104.7613		'KCPL-C2'
	FDNS	00G12_018		2 13SP	G12_018	'TO->FROM'	'GLADSTONE - SHOAL CREEK 161KV CKT 1'	224	0.0323	104.0801		'KCPLB-6'
	FDNS	00G12_018		2 18SP	G12_018	'FROM->TO'	'HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1'	187	0.1094	107.7236		'BKR-HOS-3302'
	FDNS	00G12_018		2 18SP	G12_018	'FROM->TO'	'HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1'	187	0.1094	106.0469		'BKR-HOS-3302'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1'	187	0.1114	106.0027		'BKR-HOS-3302'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1'	187	0.1114	104.3467		'BKR-HOS-3302'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'NASHUA - SHOAL CREEK 161KV CKT 1'	334	0.0323	100.4785		'KCPL-C2'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'NASHUA - SHOAL CREEK 161KV CKT 1'	334	0.0323	100		'KCPLB-6'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0828	117.0766		'KCPL-C2'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0828	116.3318		'KCPLB-6'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0828	115.2309		'KCPL-C2'
	FDNS	00G12_018		2 13SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0828	114.4981		'KCPLB-6'
	FDNS			2 13SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0829	112.0191		'KCPL-C2'
	FDNS			2 13SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0829	111.2669		'KCPLB-6'
	FDNS			2 13SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0829	110.2284		'KCPL-C2'
	FDNS	00G12_018		2 18SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.061	110.0277		'KCPL-C2'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0568	109.5571		'KCPL-C2'
	FDNS			2 13SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0829	109.4884		'KCPLB-6'
	FDNS	00G12_018		2 18SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.061	109.3148		'KCPLB-6'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0568	108.8452		'KCPLB-6'
	FDNS	00G12_018		2 18SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.061	108.2608		'KCPL-C2'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0568	107.7732		'KCPL-C2'
	FDNS	00G12_018		2 18SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.061	107.5588		'KCPLB-6'
	FDNS	00G12_018		2 23SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0568	107.072		'KCPLB-6'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0	2	23SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0569	106.4122	'KCPL-C2'	
	FDNS	0	2	18SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0611	106.2001	'KCPL-C2'	
	FDNS	0	2	23SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0569	105.7001	'KCPLB-6'	
	FDNS	0	2	18SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0611	105.4737	'KCPLB-6'	
	FDNS	0	2	23SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0569	104.6691	'KCPL-C2'	
	FDNS	0	2	18SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0611	104.4916	'KCPL-C2'	
	FDNS	0	2	23SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0569	103.9675	'KCPLB-6'	
	FDNS	0	2	18SP	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0611	103.7763	'KCPLB-6'	
	FDNS	09G12_018B PSON	2	13G	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.087	102.6561	'KCPL-C2'	
	FDNS	09G12_018B PSON	2	13G	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.087	102.157	'KCPL-C2'	
	FDNS	09G12_018B PSON	2	13G	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.087	102.0706	'KCPLB-6'	
	FDNS	09G12_018B PSON	2	13G	G12_018	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.087	101.5725	'KCPLB-6'	
	FDNS	00G12_020	2	13SP	G12_020	'FROM->TO'	'BAILEY COUNTY REC-EARTH INTERCHANGE - CASTRO COUNTY INTERCHANGE 115KV CKT 1'	160	0.0396	110.2396	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	00G12_020	2	13SP	G12_020	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0396	140.5693	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	0	2	13SP	G12_020	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0397	125.7109	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	00G12_020	2	18SP	G12_020	'TO->FROM'	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1'	351	0.2004	108.4814	'OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 & G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1'	
	FDNS	00G12_020	2	13SP	G12_020	'TO->FROM'	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1'	351	0.0453	107.5538	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_020	2	13SP	G12_020	'TO->FROM'	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1'	351	0.1088	103.5113	'G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1 & G12-038 345.00 - G12-038 TAP 345.00 345KV CKT 1'	
	FDNS	06G12_020	2	13G	G12_020	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.0363	104.3229	'THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 & G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'	
	FDNS	00G12_020	2	18SP	G12_020	'TO->FROM'	'HALE CO INTERCHANGE - TUCO INTERCHANGE 115KV CKT 1'	96	0.099	104.2445	'OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 & G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1'	
	FDNS	0	2	23SP	G12_020	'FROM->TO'	'JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'	502	0.03	102.8197	'Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 & Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_020	2	13WP	G12_020	'FROM->TO'	'SPSSPPTIESB'	620	0.341	108.7293	'BASE CASE'	
	FDNS	00G12_020	2	18WP	G12_020	'FROM->TO'	'SPSSPPTIESB'	620	0.339	101.2636	'BASE CASE'	
	FDNS	00G12_020	2	13WP	G12_020	'FROM->TO'	'SPSSPPTIESC1'	620	0.341	108.7293	'BASE CASE'	
	FDNS	00G12_020	2	18WP	G12_020	'FROM->TO'	'SPSSPPTIESC1'	620	0.339	101.2636	'BASE CASE'	
	FDNS	00G12_021	2	13SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0948	112.0713	'KCPL-C2'	
	FDNS	0	2	13SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0948	112.0191	'KCPL-C2'	
	FDNS	00G12_021	2	13SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0948	111.3204	'KCPLB-6'	
	FDNS	0	2	13SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0948	111.2669	'KCPLB-6'	
	FDNS	00G12_021	2	13SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0948	110.2802	'KCPL-C2'	
	FDNS	0	2	13SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0948	110.2284	'KCPL-C2'	
	FDNS	00G12_021	2	13SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0948	109.5414	'KCPLB-6'	
	FDNS	0	2	13SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0948	109.4884	'KCPLB-6'	
	FDNS	0	2	23SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0664	106.4122	'KCPL-C2'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0	2	18SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0702	106.2001	'KCPL-C2'	
	FDNS	00G12_021	2	18SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0702	106.2001	'KCPL-C2'	
	FDNS	00G12_021	2	23SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0664	106.1858	'KCPL-C2'	
	FDNS	0	2	23SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0664	105.7001	'KCPLB-6'	
	FDNS	00G12_021	2	18SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0702	105.4738	'KCPLB-6'	
	FDNS	0	2	18SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0702	105.4737	'KCPLB-6'	
	FDNS	00G12_021	2	23SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0664	105.4724	'KCPLB-6'	
	FDNS	0	2	23SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0664	104.6691	'KCPL-C2'	
	FDNS	0	2	18SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0702	104.4916	'KCPL-C2'	
	FDNS	00G12_021	2	18SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0702	104.4916	'KCPL-C2'	
	FDNS	00G12_021	2	23SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0664	104.4383	'KCPL-C2'	
	FDNS	0	2	23SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0664	103.9675	'KCPLB-6'	
	FDNS	0	2	18SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0702	103.7763	'KCPLB-6'	
	FDNS	00G12_021	2	18SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0702	103.7763	'KCPLB-6'	
	FDNS	00G12_021	2	23SP	G12_021	'FROM->TO'	'NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11'	660	0.0664	103.7384	'KCPLB-6'	
	FDNS	00G12_023	2	23SP	G12_023	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.0621	105.251	'BENTON - WICHITA 345KV CKT 1 & BENTON - WOLF CREEK 345KV CKT 1'	
	FDNS	00G12_023	2	13SP	G12_023	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.033	100.1857	'CMARN385'	
	FDNS	00G12_023	2	23SP	G12_023	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0621	110.1701	'BENTON - WICHITA 345KV CKT 1 & BENTON - WOLF CREEK 345KV CKT 1'	
	FDNS	00G12_023	2	23SP	G12_023	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0614	102.2443	'BENTON - ROSE HILL 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'	
	FDNS	00G12_023	2	23SP	G12_023	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0743	101.6963	'RENO COUNTY - WICHITA 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'	
	FDNS	00G12_023	2	23SP	G12_023	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0775	100.6213	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'	
	FDNS	00G12_023	2	13SP	G12_023	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0361	103.3408	'AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 & EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1'	
	FDNS	00G12_023	2	23SP	G12_023	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.036	103.286	'AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 & EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1'	
	FDNS	00G12_023	2	18SP	G12_023	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0352	101.8098	'AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 & EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1'	
	FDNS	00G12_023	2	13SP	G12_023	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0344	101.9897	'NOWST382'	
	FDNS	00G12_023	2	13WP	G12_023	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0311	100.8394	'NOWST382'	
	FDNS	03G12_024	2	13G	G12_024	'TO->FROM'	'BENTON - WICHITA 345KV CKT 1'	932	0.1497	106.0464	'GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1'	
	FDNS	03G12_024	2	13G	G12_024	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.0668	112.1859	'BENTON - WICHITA 345KV CKT 1 & VIOLA 7 345.00 - WICHITA 345KV CKT 1'	
	FDNS	03G12_024	2	13G	G12_024	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.0604	111.6586	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'	
	FDNS	03G12_024	2	13G	G12_024	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.0517	109.2836	'BENTON - WICHITA 345KV CKT 1 & BENTON - WOLF CREEK 345KV CKT 1'	
	FDNS	00G12_024	2	23SP	G12_024	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.05	103.5463	'BENTON - WICHITA 345KV CKT 1 & BENTON - WOLF CREEK 345KV CKT 1'	
	FDNS	03G12_024	2	13G	G12_024	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.0489	101.8073	'BENTON - ROSE HILL 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'	
	FDNS	03G12_024	2	13G	G12_024	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1453	117.9993	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	
	FDNS	03G12_024	2	13G	G12_024	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1453	117.9993	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00G12_024		2	13SP	G12_024	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0302	101.3697	'CMARN385'
	FDNS	03G12_024		2	13G	G12_024	'TO->FROM'	'CIRCLE - MULLERGREN 230KV CKT 1'	319	0.044	100.6833	'MULGREN7 345.00 - SPEARVILLE 345KV CKT 1 &MULGREN7 345.00 - SPEARVILLE 345KV CKT 2'
	FDNS	00G12_024		2	18WP	G12_024	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.037	128.0129	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_024		2	13WP	G12_024	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.0376	125.3321	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_024		2	23SP	G12_024	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.0388	100.7995	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_024		2	18SP	G12_024	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.0383	100.7123	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0668	114.9176	'BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0604	114.3876	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0517	112.0278	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00G12_024		2	23SP	G12_024	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.05	108.4642	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0489	104.5358	'BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00G12_024		2	23SP	G12_024	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0645	101.4554	'BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00G12_024		2	18SP	G12_024	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0499	100.6783	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00G12_024		2	23SP	G12_024	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0482	100.3955	'BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	00G12_024		2	18WP	G12_024	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.037	156.0024	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_024		2	13WP	G12_024	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0376	152.5834	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_024		2	23SP	G12_024	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0388	129.3169	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_024		2	18SP	G12_024	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0383	128.154	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	0		2	18WP	G12_024	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0371	118.203	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	0		2	13WP	G12_024	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0377	113.95	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_024		2	18WP	G12_024	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0327	104.4099	'CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 1 &CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 2'
	FDNS	00G12_024		2	13WP	G12_024	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	95.6	0.0327	102.5496	'CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 1 &CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 2'
	FDNS	00G12_024		2	23SP	G12_024	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0454	105.1681	'AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1'
	FDNS	00G12_024		2	13SP	G12_024	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0448	104.5727	'AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1'
	FDNS	00G12_024		2	18SP	G12_024	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0447	104.0915	'AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1593	102.1528	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	03G12_024		2	13G	G12_024	'TO->FROM'	'MULLERGREN - SPEARVILLE 230KV CKT 1'	355.3	0.0654	100.974	'G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'TO->FROM'	'MULLERGREN - SPEARVILLE 230KV CKT 1'	355.3	0.0654	100.9713	'G12-11T 345.00 - POST ROCK 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'TO->FROM'	'MULLERGREN - SPEARVILLE 230KV CKT 1'	355.3	0.0654	100.8498	'G11-17T 345.00 - G12-11T 345.00 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0301	105.6881	'NOWST382'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0301	103.8634	'NOWST382'
	FDNS	00G12_024		2	13SP	G12_024	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0331	103.251	'NOWST382'
	FDNS	00G12_024		2	13SP	G12_024	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0331	101.0029	'NOWST382'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1'	440	0.0628	107.1899	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1'	440	0.0685	106.2406	'BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1'	440	0.0628	106.1513	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1'	440	0.0685	105.3976	'BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1'	440	0.0526	102.265	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	03G12_024		2	13G	G12_024	'FROM->TO'	'WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1'	440	0.0526	100.9479	'BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_024	'TO->FROM'	'FLATRDG3 - THISTLE4 138.00 138KV CKT 1'	286	0.0484	108.2454	'THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	03NR		3	13G	G12_024	'FROM->TO'	'MEDILODGEXFR'	65	0.0308	102.7	'BASE CASE'
	FDNS	00G12_026		2	13SP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	109.2282	'MIDW-CATC04B'
	FDNS	0		2	13WP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	108.6695	'MIDW-CATC04B'
	FDNS	00G12_026		2	13WP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	108.6407	'MIDW-CATC04B'
	FDNS	0		2	18WP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	107.4516	'MIDW-CATC04B'
	FDNS	00G12_026		2	18WP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	107.2409	'MIDW-CATC04B'
	FDNS	0		2	13SP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	105.984	'MIDW-CATC04B'
	FDNS	00G12_026		2	18SP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	104.6814	'MIDW-CATC04B'
	FDNS	0		2	18SP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	104.6805	'MIDW-CATC04B'
	FDNS	0		2	23SP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	104.3404	'MIDW-CATC04B'
	FDNS	00G12_026		2	23SP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	104.2924	'MIDW-CATC04B'
	FDNS	00NR		3	23SP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	110.6434	'MIDW-CATC04B'
	FDNS	00NR		3	13WP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	107.9284	'MIDW-CATC04B'
	FDNS	00NR		3	18WP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	105.96	'MIDW-CATC04B'
	FDNS	00NR		3	13SP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	105.1631	'MIDW-CATC04B'
	FDNS	00NR		3	18SP	G12_026	'TO->FROM'	'ATWOOD - COLBY 115KV CKT 1'	77	1	102.4227	'MIDW-CATC04B'
	FDNS	04NR		3	13G	G12_026	'FROM->TO'	'G12_002T 115.00 - PILE 115KV CKT 1'	198	0.1049	100.782	'HOLCOMB - SETAB 345KV CKT 1 &MINGO - SETAB 345KV CKT 1'
	FDNS	04NR		3	13G	G12_026	'FROM->TO'	'KNOLL - N HAYS3 115.00 115KV CKT 1'	99	0.1385	107.6249	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1 &KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1'
	FDNS	04NR		3	13G	G12_026	'FROM->TO'	'KNOLL 230 (KNOLL T1) 230/115/11.49KV TRANSFORMER CKT 1'	224	0.1618	104.0806	'POSTROCK6 230.00 - SOUTH HAYS 230KV CKT 1 &MULLERGREN - SOUTH HAYS 230KV CKT 1'
	FDNS	04NR		3	13G	G12_026	'FROM->TO'	'N HAYS3 115.00 - VINE STREET 115KV CKT 1'	99	0.1385	102.835	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1 &KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1'
	FDNS	04NR		3	13G	G12_026	'TO->FROM'	'SCOTT CITY - SETAB 115KV CKT 1'	198	0.0434	117.2423	'HOLCOMB - SETAB 345KV CKT 1 &MINGO - SETAB 345KV CKT 1'
	FDNS	00G12_027		2	13SP	G12_027	'TO->FROM'	'FAIRFAX TAP - SHIDLER 138KV CKT 1'	152	0.341	125.8543	'SONR184'
	FDNS	00G12_027		2	13SP	G12_027	'FROM->TO'	'FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1'	152	0.341	125.8533	'SONR184'
	FDNS	0		2	18WP	G12_028	'FROM->TO'	'LAWEASOKLUNI'	425	0.0349	111.8	'BASE CASE'
	FDNS	00G12_028		2	18WP	G12_028	'FROM->TO'	'LAWEASOKLUNI'	425	0.0349	111.1	'BASE CASE'
	FDNS	0		2	18WP	G12_029	'FROM->TO'	'LAWEASOKLUNI'	425	0.0363	111.8	'BASE CASE'
	FDNS	00G12_029		2	18WP	G12_029	'FROM->TO'	'LAWEASOKLUNI'	425	0.0362	110.7	'BASE CASE'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	717	0.2492	110.5033	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		
								(MVA)	TDF	(%MVA)	CONTINGENCY	
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0826	135.6774	'CIMARRONR'
	FDNS	00G12_031		2	13SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0809	114.4485	'CIMARRONR'
	FDNS	00G12_031		2	23SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0788	106.5972	'CIMARRONR'
	FDNS	00G12_031		2	13WP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	375	0.0796	105.1963	'CIMARRONR'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0403	103.8323	'DBLCT37'
	FDNS	00G12_031		2	18SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0792	103.3074	'CIMARRONR'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.068	100.6498	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00G12_031		2	18WP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1137	118.4581	'CMARN385'
	FDNS	00G12_031		2	13WP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1133	117.6626	'CMARN385'
	FDNS	00G12_031		2	18WP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1137	115.0699	'CMARN385'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1177	114.9527	'CMARN385'
	FDNS	00G12_031		2	13WP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1133	114.42	'CMARN385'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1177	112.3586	'CMARN385'
	FDNS	00G12_031		2	13SP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1144	109.7723	'CMARN385'
	FDNS	00G12_031		2	13SP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1144	107.5147	'CMARN385'
	FDNS		0	2	18WP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1136	103.2234	'CMARN385'
	FDNS		0	2	13WP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1132	102.616	'CMARN385'
	FDNS	00G12_031		2	23SP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.1187	100.5841	'CMARN385'
	FDNS	00G12_031		2	13WP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0771	100.1172	'CMARN182'
	FDNS	00G12_031		2	18WP	G12_031	'FROM->TO'	'CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.078	100.1137	'CMARN182'
	FDNS	00G12_031		2	13WP	G12_031	'FROM->TO'	'CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.079	100	'CMARN181'
	FDNS	00G12_031		2	13SP	G12_031	'TO->FROM'	'DIANA - WELSH 345KV CKT 1'	1059	0.04	100.8066	'DIANA - WELSH 345KV CKT 2 & WELSH - WILKES 345KV CKT 1'
	FDNS	00G12_031		2	13SP	G12_031	'TO->FROM'	'DIANA - WELSH 345KV CKT 2'	1059	0.0399	100.557	'DIANA - WELSH 345KV CKT 1 & WELSH - WILKES 345KV CKT 1'
	FDNS	01G12_031		2	13G	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0826	130.4469	'CIMARRONR'
	FDNS	00G12_031		2	13SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0809	106.5919	'CIMARRONR'
	FDNS	00G12_031		2	13WP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	375	0.0796	100.6702	'CIMARRONR'
	FDNS	00G12_031		2	18WP	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0512	123.2481	'CIMARRONR'
	FDNS	00G12_031		2	13WP	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0496	116.21	'CIMARRONR'
	FDNS		0	2	18WP	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0512	111.1535	'CIMARRONR'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0532	110.4702	'CIMARRONR'
	FDNS		0	2	13WP	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0495	104.6354	'CIMARRONR'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'HUGO POWER PLANT - VALLIANT 138KV CKT 1'	394	0.0303	118.9699	'PITTSBURG - VALLIANT 345KV CKT 1 & HUGO - VALLIANT 345KV CKT 1'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0552	110.546	'NOWST382'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0552	108.7231	'NOWST382'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		
								(MVA)	TDF	(%MVA)	CONTINGENCY	
	FDNS	00G12_031		2	13SP	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0335	107.4441	'NOWST383'
	FDNS	00G12_031		2	13SP	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0335	105.2078	'NOWST383'
	FDNS	00G12_031		2	13WP	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0522	103.4381	'NOWST382'
	FDNS		0	2	13SP	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0333	103.3979	'NOWST383'
	FDNS	00G12_031		2	13SP	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0519	103.2091	'NOWST382'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.034	103.1035	'NOWST383'
	FDNS	00G12_031		2	13WP	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0323	101.9129	'NOWST383'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.034	101.4153	'NOWST383'
	FDNS		0	2	13SP	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0333	101.1689	'NOWST383'
	FDNS	00G12_031		2	13WP	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0522	101.0829	'NOWST382'
	FDNS	00G12_031		2	13SP	G12_031	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0519	100.9488	'NOWST382'
	FDNS	01G12_031		2	13G	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0319	104.0314	'MSTNG186'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0672	134.0277	'DBLCCT3'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0666	132.7216	'DBLCCT3'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0666	129.3021	'DBLCCT4'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.085	125.5163	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0471	124.1148	'DVISN138PCBA'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0557	121.8022	'PLVAL138KV'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0419	120.5099	'BUS23'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0982	120.1601	'DBLCCT3'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0798	118.7612	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.043	116.5975	'DVISN138PCBB'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.074	116.5304	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0527	115.9764	'PLVAL138KV'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0988	115.0396	'CIMARRON - NORTHWEST 345KV CKT 1 & MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0704	114.9204	'DVISN138PCBB'
	FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0964	114.679	'DBLCCT3'
	FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0522	114.1989	'PLVAL138KV'
	FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0959	113.864	'DBLCCT3'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0384	113.7	'BUS23'
	FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0897	112.4644	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0469	112.1765	'CMARN186'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0558	112.1189	'DBLCCT4'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.061	111.5735	'CMARN384'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		
								(MVA)	TDF	(%MVA)	CONTINGENCY	
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.061	111.5735	'DBLCCT8'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0547	111.289	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0547	111.2757	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0548	111.2036	'DRAPR384'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.055	111.1069	'DBLCCT7'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.055	111.0788	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 3'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0556	111.0352	'DBLCCT5'
	FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0767	110.9775	'DVISN138PCBA'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0543	110.9155	'DBLCCT6'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0372	110.6338	'MEMRL138PCB'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0607	110.3934	'CIMARRON - MINCO 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0395	110.2014	'DBLCCT31'
	FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.1048	109.8936	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0464	109.5138	'CMARN186'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0671	109.1751	'BUS23'
	FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0959	109.0666	'DBLCCT4'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0604	108.9275	'CIMARRON - DRAPER LAKE 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0604	108.9275	'CIMARRON - DRAPER LAKE 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0799	108.9197	'DBLCCT3'
	FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0683	108.3545	'DVISN138PCBB'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0572	108.077	'MEMRL138PCB'
	FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0541	107.9431	'DVISN138PCBA'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.067	107.342	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0726	106.1709	'BUS23'
	FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0342	106.1469	'PLVAL138KV'
	FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0971	106.0088	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0799	105.7312	'DBLCCT4'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0798	105.6872	'DBLCCT4'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0865	105.4728	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0512	105.0571	'ARCADIA - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0441	104.7632	'PLVAL138KV'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.034	104.3849	'MEMRL138PCB'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0362	103.8824	'DBLCCT31'
	FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0496	103.8254	'BUS23'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING	
								(MVA)	TDF	(%MVA)	CONTINGENCY
FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0651	103.6118	'BUS23'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.051	103.3988	'DBLCCT5'
FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0497	103.3319	'MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0956	103.2515	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0437	103.1974	'PLVAL138KV'
FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0416	103.1397	'NORTHWEST - SPRING CREEK 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0624	103.0049	'MEMRL138PCB'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0544	102.9072	'CMARN384'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0544	102.9072	'DBLCCT8'
FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0513	102.826	'NOWST382'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0493	102.704	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 1'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0493	102.6867	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 2'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0494	102.6171	'DRAPR384'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0495	102.5419	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 3'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0501	102.3834	'DBLCCT7'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0492	102.3501	'DBLCCT6'
FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0708	102.3106	'DBLCCT5'
FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0757	102.0805	'CMARN186'
FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0542	101.8089	'CIMARRON - MINCO 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0826	101.7921	'CMARN384'
FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0826	101.7921	'DBLCCT8'
FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.08	101.6342	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0361	101.504	'BUS22'
FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0492	101.2173	'CMARN385'
FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0554	101.2114	'MEMRL138PCB'
FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0698	101.1997	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 1'
FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0698	101.1902	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 2'
FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0698	101.1191	'DRAPR384'
FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0554	101.0447	'DBLCCT29'
FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0699	100.9912	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 3'
FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0824	100.9742	'CIMARRON - MINCO 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0388	100.9608	'BUS21'
FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0745	100.8916	'CMARN384'
FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0745	100.8916	'DBLCCT8'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		
								(MVA)	TDF	(%MVA)	CONTINGENCY	
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0557	100.8383	'GEN514859 1-MUSTANG 4G'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0433	100.74	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0433	100.74	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0698	100.7381	'DBLCCT6'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0703	100.6484	'DBLCCT7'
	FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.078	100.5198	'DBLCCT4'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0544	100.4968	'CIMARRON - DRAPER LAKE 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0544	100.4968	'CIMARRON - DRAPER LAKE 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0441	100.3868	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0441	100.3868	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0743	100	'CIMARRON - MINCO 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	956	0.2805	102.2755	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.1134	163.4216	'CIMARRONR'
	FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.1098	159.1491	'CIMARRONR'
	FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.1113	157.7227	'CIMARRONR'
	FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.1023	140.9786	'CIMARRONR'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	375	0.0927	137.4289	'CIMARRONR'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	375	0.092	135.7417	'CIMARRONR'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0729	132.6102	'DBLCCT37'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0997	126.2534	'CIMARRON - NORTHWEST 345KV CKT 1 &MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0711	121.6003	'DBLCCT37'
	FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.1017	117.1404	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0707	117.0833	'DBLCCT37'
	FDNS	00NR		3	13SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.1034	115.4781	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0981	112.3753	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0354	108.4485	'PLVAL138KV'
	FDNS	01NR		3	13G	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0611	107.4972	'DBLCCT37'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	375	0.0547	105.3027	'DBLCCT37'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	375	0.0542	103.0965	'DBLCCT37'
	FDNS	00NR		3	23SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.062	102.177	'DBLCCT3'
	FDNS	00NR		3	13WP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	375	0.1027	101.5954	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_031	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.033	100.4224	'PLVAL138KV'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0497	126.263	'MSTNG186'
	FDNS	00NR		3	18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0544	122.3202	'CMARN185'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING	
								(MVA)	TDF	(%MVA)	CONTINGENCY
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0767	117.3235	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.059	115.683	'DBLCCT7'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0629	114.6048	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 2'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0629	114.5907	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 1'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.063	114.5454	'DRAPR384'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0636	114.1402	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 3'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0741	113.888	'CMARN384'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0741	113.888	'DBLCCT8'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0578	112.6515	'DBLCCT6'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0737	112.3246	'CIMARRON - MINCO 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0683	112.1646	'CIMARRON - DRAPER LAKE 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0683	112.1646	'CIMARRON - DRAPER LAKE 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0543	105.6421	'DBLCCT5'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0592	105.3027	'CMARN385'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0351	101.9242	'DBLCCT41'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CIMARRON - SARA 138KV CKT 1'	382	0.0582	100.9812	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0672	125.9766	'DBLCCT3'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0666	124.602	'DBLCCT3'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0666	121.2088	'DBLCCT4'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.085	117.5087	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0471	115.9437	'DVISN138PCBA'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0419	112.3647	'BUS23'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0798	110.8143	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 23SP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0557	109.7224	'PLVAL138KV'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.043	108.4921	'DVISN138PCBB'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.074	108.4736	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3 23SP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0982	108.1091	'DBLCCT3'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0384	105.6213	'BUS23'
	FDNS	01NR		3 13G	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0897	104.9059	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 18SP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0527	104.7329	'PLVAL138KV'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0469	104.1801	'CMARN186'
	FDNS	00NR		3 18WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0558	104.1189	'DBLCCT4'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.061	103.494	'CMARN384'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.061	103.494	'DBLCCT8'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING	
								(MVA)	TDF	(%MVA)	CONTINGENCY
	FDNS	00NR		3 18SP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0964	103.4514	'DBLCCT3'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0547	103.192	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 1'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0547	103.1843	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 2'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0548	103.1262	'DRAPR384'
	FDNS	00NR		3 23SP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0988	103.0401	'CIMARRON - NORTHWEST 345KV CKT 1 &MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.055	103.0033	'DBLCCT7'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.055	102.9921	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 3'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0556	102.9678	'DBLCCT5'
	FDNS	00NR		3 13SP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0522	102.8861	'PLVAL138KV'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0543	102.8285	'DBLCCT6'
	FDNS	00NR		3 23SP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0704	102.7448	'DVISN138PCBB'
	FDNS	00NR		3 13SP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0959	102.5531	'DBLCCT3'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0372	102.4284	'MEMRL138PCB'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0607	102.3275	'CIMARRON - MINCO 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0395	102.152	'DBLCCT31'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0464	101.4739	'CMARN186'
	FDNS	01NR		3 13G	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0799	101.3331	'DBLCCT3'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0604	100.8621	'CIMARRON - DRAPER LAKE 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3 13WP	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0604	100.8621	'CIMARRON - DRAPER LAKE 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	01NR		3 13G	G12_031	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0541	100.245	'DVISN138PCBA'
	FDNS	00NR		3 23SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.1134	153.1919	'CIMARRONR'
	FDNS	00NR		3 13SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.1098	151.1951	'CIMARRONR'
	FDNS	00NR		3 18SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.1113	149.0483	'CIMARRONR'
	FDNS	01NR		3 13G	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.1023	135.7421	'CIMARRONR'
	FDNS	00NR		3 18WP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	375	0.0927	132.3776	'CIMARRONR'
	FDNS	00NR		3 13WP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	375	0.092	131.1138	'CIMARRONR'
	FDNS	00NR		3 23SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0729	122.4418	'DBLCCT37'
	FDNS	00NR		3 23SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0997	116.1907	'CIMARRON - NORTHWEST 345KV CKT 1 &MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 18SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0711	113.0095	'DBLCCT37'
	FDNS	01NR		3 13G	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.1017	112.0132	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 13SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0707	109.2228	'DBLCCT37'
	FDNS	00NR		3 13SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.1034	107.7432	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3 18SP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0981	103.887	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	01NR		3 13G	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0611	102.3079	'DBLCCT37'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00NR	3	18WP	G12_031	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	375	0.0547	100.3302	'DBLCCT37'	
	FDNS	00NR	3	23SP	G12_031	'FROM->TO'	'DIVISION AVE - LAKESIDE 138KV CKT 1'	308	0.0305	114.0487	'BUS21'	
	FDNS	00NR	3	13SP	G12_031	'FROM->TO'	'DIVISION AVE - LAKESIDE 138KV CKT 1'	308	0.0458	110.3581	'CIMARRONR'	
	FDNS	00NR	3	23SP	G12_031	'FROM->TO'	'DIVISION AVE - LAKESIDE 138KV CKT 1'	308	0.0495	109.8288	'CIMARRONR'	
	FDNS	00NR	3	18SP	G12_031	'FROM->TO'	'DIVISION AVE - LAKESIDE 138KV CKT 1'	308	0.047	108.9364	'CIMARRONR'	
	FDNS	00NR	3	18WP	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0518	154.5629	'CIMARRONR'	
	FDNS	00NR	3	13WP	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0513	154.4165	'CIMARRONR'	
	FDNS	00NR	3	13SP	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0864	124.1777	'CIMARRONR'	
	FDNS	01NR	3	13G	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0663	121.7552	'CIMARRONR'	
	FDNS	00NR	3	18SP	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0877	118.6773	'CIMARRONR'	
	FDNS	00NR	3	23SP	G12_031	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0886	116.7593	'CIMARRONR'	
	FDNS	00NR	3	23SP	G12_031	'TO->FROM'	'HEFNER - LAKESIDE 138KV CKT 1'	308	0.0305	101.9633	'BUS21'	
	FDNS	00NR	3	23SP	G12_031	'FROM->TO'	'HEFNER - TULSA 138KV CKT 1'	222	0.0306	102.6638	'CIMARRONR'	
	FDNS	00NR	3	13SP	G12_031	'FROM->TO'	'LONEOAK - QUAIL CREEK 138KV CKT 1'	308	0.0312	108.9143	'NOWST113'	
	FDNS	00NR	3	18SP	G12_031	'FROM->TO'	'LONEOAK - QUAIL CREEK 138KV CKT 1'	308	0.0308	105.9735	'NOWST113'	
	FDNS	00NR	3	23SP	G12_031	'FROM->TO'	'LONEOAK - QUAIL CREEK 138KV CKT 1'	308	0.0346	103.5078	'NOWST113'	
	FDNS	00NR	3	13WP	G12_031	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.3726	107.3968	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'	
	FDNS	00NR	3	18WP	G12_031	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.3671	105.2397	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'	
	FDNS	00NR	3	13WP	G12_031	'TO->FROM'	'MEMORIAL - SKYLINE 138KV CKT 1'	478	0.0329	102.4528	'MSTNG186'	
	FDNS	00NR	3	18WP	G12_031	'FROM->TO'	'MORGAN - MUSTANG 138KV CKT 1'	444	0.0672	106.351	'DBLCCT3'	
	FDNS	00NR	3	13WP	G12_031	'FROM->TO'	'MORGAN - MUSTANG 138KV CKT 1'	444	0.0666	105.1747	'DBLCCT3'	
	FDNS	00NR	3	13WP	G12_031	'FROM->TO'	'MORGAN - MUSTANG 138KV CKT 1'	444	0.0666	102.2657	'DBLCCT4'	
	FDNS	00NR	3	18WP	G12_031	'TO->FROM'	'MORGAN - XEROX 138KV CKT 1'	478	0.0672	100.4598	'DBLCCT3'	
	FDNS	00NR	3	13SP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0566	132.9067	'MSTNG186'	
	FDNS	00NR	3	18SP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0527	125.651	'MSTNG186'	
	FDNS	00NR	3	23SP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0575	122.1223	'MSTNG186'	
	FDNS	01NR	3	13G	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0461	118.4343	'MSTNG186'	
	FDNS	00NR	3	13WP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	375	0.0393	112.9553	'MSTNG186'	
	FDNS	00NR	3	13SP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0353	109.1192	'DVISN138PCBA'	
	FDNS	00NR	3	13SP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0424	108.0041	'BUS23'	
	FDNS	00NR	3	18WP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	375	0.0375	107.3593	'MSTNG186'	
	FDNS	00NR	3	18SP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0347	104.0589	'DVISN138PCBB'	
	FDNS	00NR	3	18SP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0409	103.2089	'BUS23'	
	FDNS	00NR	3	13SP	G12_031	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0582	103.1177	'CIMARRONR'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING	
								(MVA)	TDF	(%MVA)	CONTINGENCY
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0516	120.1601	'DBLCCT3'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0342	115.0396	'CIMARRON - NORTHWEST 345KV CKT 1 &MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0393	114.9204	'DVISN138PCBB'
	FDNS	00NR	3	18SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0496	114.679	'DBLCCT3'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0502	113.864	'DBLCCT3'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0432	110.9775	'DVISN138PCBA'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0386	109.8936	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0402	109.1751	'BUS23'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0502	109.0666	'DBLCCT4'
	FDNS	00NR	3	18SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0371	108.3545	'DVISN138PCBB'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0325	108.077	'MEMRL138PCB'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0441	106.1709	'BUS23'
	FDNS	00NR	3	18SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0327	106.0088	'CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0404	105.6872	'DBLCCT4'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0347	105.4728	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR	3	18SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0382	103.6118	'BUS23'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0391	103.2515	'CIMARRON - NORTHWEST 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0359	103.0049	'MEMRL138PCB'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0345	102.3106	'DBLCCT5'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0414	102.0805	'CMARN186'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0396	101.7921	'CMARN384'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0396	101.7921	'DBLCCT8'
	FDNS	00NR	3	18SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0306	101.2114	'MEMRL138PCB'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0345	101.1997	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0345	101.1902	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 2'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0345	101.1191	'DRAPR384'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0345	100.9912	'CIMARRON - DRAPER LAKE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 3'
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0394	100.9742	'CIMARRON - MINCO 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0349	100.8916	'CMARN384'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0349	100.8916	'DBLCCT8'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0345	100.7381	'DBLCCT6'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0346	100.6484	'DBLCCT7'
	FDNS	00NR	3	18SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0385	100.5198	'DBLCCT4'
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0347	100	'CIMARRON - MINCO 345KV CKT 1 &CIMARRON - DRAPER LAKE 345KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00NR	3	13WP	G12_032	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	956	0.0822	102.2755	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0429	163.4216	'CIMARRONR'	
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0413	159.1491	'CIMARRONR'	
	FDNS	00NR	3	18SP	G12_032	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0403	157.7227	'CIMARRONR'	
	FDNS	08NR	3	13G	G12_032	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0314	103.4518	'CIMARRONR'	
	FDNS	00NR	3	23SP	G12_032	'TO->FROM'	'CIMARRON - MATHWSN7 345.00 345KV CKT 1'	956	0.1692	117.6472	'MATHWSN7 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATHWSN7 345.00 345KV CKT 2'	
	FDNS	00NR	3	18WP	G12_032	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1228	141.0459	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	
	FDNS	00NR	3	13WP	G12_032	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1226	140.3934	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	
	FDNS	00NR	3	13SP	G12_032	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.171	133.692	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	
	FDNS	00NR	3	18SP	G12_032	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1612	115.4276	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	
	FDNS	00NR	3	18WP	G12_032	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1228	141.0459	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	
	FDNS	00NR	3	13WP	G12_032	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1226	140.3934	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	
	FDNS	00NR	3	13SP	G12_032	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.171	133.692	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	
	FDNS	00NR	3	18SP	G12_032	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1612	115.4276	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0516	108.1091	'DBLCCT3'	
	FDNS	00NR	3	18SP	G12_032	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0496	103.4514	'DBLCCT3'	
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0342	103.0401	'CIMARRON - NORTHWEST 345KV CKT 1 & MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0393	102.7448	'DVISN138PCBB'	
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0502	102.5531	'DBLCCT3'	
	FDNS	00NR	3	23SP	G12_032	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0429	153.1919	'CIMARRONR'	
	FDNS	00NR	3	13SP	G12_032	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0413	151.1951	'CIMARRONR'	
	FDNS	00NR	3	18SP	G12_032	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0403	149.0483	'CIMARRONR'	
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0554	124.1777	'CIMARRONR'	
	FDNS	00NR	3	18SP	G12_032	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0545	118.6773	'CIMARRONR'	
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0554	116.7593	'CIMARRONR'	
	FDNS	00NR	3	23SP	G12_032	'TO->FROM'	'KINZE - MCELROY 138KV CKT 1'	222	0.0416	104.977	'CLEVELAND - SOONER 345KV CKT 1 & SOONER - SPRING CREEK 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_032	'TO->FROM'	'KINZE - MCELROY 138KV CKT 1'	222	0.0331	101.2057	'CLEVELAND - SOONER 345KV CKT 1 & SOONER - WOODRING 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'LACYGNE - NEOSHO 345KV CKT 1'	1159	0.0494	104.1232	'LACYGNE - WEST GARDNER 345KV CKT 1 & LACYGNE - STILWELL 345KV CKT 1'	
	FDNS	00NR	3	23SP	G12_032	'FROM->TO'	'MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'	1195	0.172	104.0676	'CIMARRON - MATHWSN7 345.00 345KV CKT 1 & CIMARRON - MATHWSN7 345.00 345KV CKT 2'	
	FDNS	00NR	3	18WP	G12_032	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1328	128.1844	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	
	FDNS	00NR	3	13WP	G12_032	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1329	127.6884	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	
	FDNS	00NR	3	13SP	G12_032	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1812	119.9665	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	
	FDNS	00NR	3	13WP	G12_032	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.0877	107.3968	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'	
	FDNS	00NR	3	18WP	G12_032	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.0859	105.2397	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00NR		3	18SP	G12_032	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1697	103.644	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13SP	G12_032	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0365	132.9067	'MSTNG186'
	FDNS	00NR		3	18SP	G12_032	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0325	125.651	'MSTNG186'
	FDNS	00NR		3	23SP	G12_032	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0371	122.1223	'MSTNG186'
	FDNS		0	2	18SP	G12_034	'TO->FROM'	'ARCO WILLARD TAP - Bennett Sub 115KV CKT 1'	160	0.2624	106.2827	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'TO->FROM'	'ARCO WILLARD TAP - Bennett Sub 115KV CKT 1'	160	0.2624	106.2827	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0742	125.8174	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS		0	2	13SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0742	125.7109	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.048	112.1033	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.048	111.993	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'
	FDNS		0	2	18SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0731	110.8698	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0731	110.8696	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.05	110.1579	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION EAST 230KV CKT 2'
	FDNS	00G12_034		2	13SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0497	110.1515	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION WEST 230KV CKT 1'
	FDNS		0	2	13SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.05	110.1105	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION EAST 230KV CKT 2'
	FDNS		0	2	13SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0497	110.0954	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION WEST 230KV CKT 1'
	FDNS		0	2	18SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0334	109.8905	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0334	109.8904	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
	FDNS		0	2	23SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0572	103.0682	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'
	FDNS	00G12_034		2	23SP	G12_034	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0573	100.8085	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'
	FDNS		0	2	18SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	125.4307	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	125.4307	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS		0	2	18SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	115.744	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	115.744	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	115.5555	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	114.7234	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	23SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.254	108.414	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS		0	2	23SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.254	108.3276	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	105.993	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	105.1453	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS		0	2	18SP	G12_034	'FROM->TO'	'CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	351	0.0357	108.4336	'EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 & CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'FROM->TO'	'CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	351	0.0357	108.4336	'EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 & CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1'
	FDNS		0	2	18SP	G12_034	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.5138	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.5138	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00G12_034		2	23SP	G12_034	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	113.6548	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_034	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	113.5754	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	111.3573	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	110.5269	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	23SP	G12_034	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	104.3214	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_034	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	104.2409	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13WP	G12_034	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	169	0.2629	103.1631	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13WP	G12_034	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	169	0.2629	102.7093	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_034	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.4984	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.4983	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	101.6712	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	100	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.1099	101.6146	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.1099	101.2896	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	00G12_034		2	23SP	G12_034	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100.7685	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_034	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100.759	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_034	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	23SP	G12_034	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1105	132.3417	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1105	132.0616	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1755	129.2351	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1755	128.7528	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.094	127.9698	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0941	127.5347	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1064	125.8476	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1065	125.3326	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.094	123.9685	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.094	123.7221	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0941	123.5563	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0941	123.3121	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0936	121.8968	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0936	121.4625	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0929	120.5284	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	120.2116	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0929	120.0653	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	119.7776	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1175	115.5711	'BASE CASE'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1176	114.8083	'BASE CASE'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1413	114.6655	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1414	113.9312	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	110.5872	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	110.1848	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	109.9396	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	109.5365	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1413	107.4208	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.139	107.1065	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1413	106.972	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.139	106.7259	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1414	106.6811	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1414	106.296	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	105.6342	'Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1371	105.6162	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1388	105.4516	'TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	105.2281	'Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1371	105.2135	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1416	105.0704	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1388	104.9869	'TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1362	104.7576	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1416	104.2782	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1362	104.2059	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1406	103.7054	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1196	103.6187	'Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 & Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1366	103.2719	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1196	103.0058	'Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 & Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1407	102.9682	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1367	102.9077	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1417	102.2797	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1182	101.9686	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 & GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1417	101.5447	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1175	101.4868	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1183	101.3703	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 & GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1172	101.3146	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1172	101.3144	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1175	101.136	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1395	101.1205	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1202	101.002	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 & JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1176	100.8961	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1176	100.5453	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1396	100.3961	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	13SP	G12_034	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1202	100.3818	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 & JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	0		2	18SP	G12_034	'FROM->TO'	'YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1405	100	'TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & AMOCO SWITCHING STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_034		2	18SP	G12_034	'FROM->TO'	'YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1405	100	'TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & AMOCO SWITCHING STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'TO->FROM'	'ARCO WILLARD TAP - Bennett Sub 115KV CKT 1'	160	0.2624	106.2827	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'TO->FROM'	'ARCO WILLARD TAP - Bennett Sub 115KV CKT 1'	160	0.2624	106.2827	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0742	125.8174	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0742	125.7109	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.048	112.1033	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.048	111.993	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0731	110.8698	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0731	110.8696	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.05	110.1579	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION EAST 230KV CKT 2'
	FDNS	00G12_035		2	13SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0497	110.1515	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION WEST 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.05	110.1105	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION EAST 230KV CKT 2'
	FDNS	0		2	13SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0497	110.0954	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION WEST 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0334	109.8905	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0334	109.8904	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0572	103.0682	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'
	FDNS	00G12_035		2	23SP	G12_035	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0573	100.8085	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	125.4307	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	125.4307	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	115.744	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	115.744	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0		2	13SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	115.5555	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	114.7234	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	23SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.254	108.414	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.254	108.3276	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	105.993	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	105.1453	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'FROM->TO'	'CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	351	0.0357	108.4336	'EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 & CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'FROM->TO'	'CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	351	0.0357	108.4336	'EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 & CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.5138	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.5138	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	101.8449	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	100.1875	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.0303	122.3162	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.0303	122.3111	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'DEAF SMITH REC-#20 - DEAF SMITH REC-#24 115KV CKT 1'	99	0.0303	101.6592	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'DEAF SMITH REC-#20 - DEAF SMITH REC-#24 115KV CKT 1'	99	0.0303	101.652	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2624	168.7948	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2624	168.7948	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2628	159.224	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2624	158.9711	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2624	158.9711	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2628	158.3788	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	23SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.254	150.7717	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.254	150.699	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2628	149.9789	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2628	149.1232	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	23SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.254	141.5796	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.254	141.5059	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13WP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	177	0.2629	133.303	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13WP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	177	0.2629	132.8642	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18WP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	177	0.263	127.9202	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18WP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	177	0.263	127.9167	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13WP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	177	0.2629	124.5747	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13WP	G12_035	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	177	0.2629	124.1406	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0		2	23SP	G12_035	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1832	110.4934	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	23SP	G12_035	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1833	110.4332	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1927	109.637	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1927	109.0048	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2624	130.2627	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2624	130.2627	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2624	120.7612	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2624	120.7612	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	120.5598	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	119.7428	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	23SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	113.6548	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	113.5754	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	111.3573	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	110.5269	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	23SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	104.3214	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	104.2409	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13WP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	169	0.2629	103.1631	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13WP	G12_035	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	169	0.2629	102.7093	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	18SP	G12_035	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.4984	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.4983	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	101.6712	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	100	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.1099	101.6146	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.1099	101.2896	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	00G12_035		2	23SP	G12_035	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100.7685	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_035	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100.759	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_035	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	23SP	G12_035	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1105	132.3417	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1105	132.0616	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1755	129.2351	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1755	128.7528	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.094	127.9698	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0941	127.5347	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1064	125.8476		'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1065	125.3326		'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.094	123.9685	230.00	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G10-46 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.094	123.7221	230.00	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G12-020 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0941	123.5563	230.00	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G10-46 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0941	123.3121	230.00	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G12-020 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0936	121.8968	230.00	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0936	121.4625	230.00	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0929	120.5284	230.00	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	120.2116	230.00	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0929	120.0653	230.00	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	119.7776	230.00	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1175	115.5711		'BASE CASE'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1176	114.8083		'BASE CASE'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1413	114.6655	230.00	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1414	113.9312	230.00	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	110.5872	230.00	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G10-46 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	110.1848	230.00	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G10-46 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	109.9396	230.00	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G12-020 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	109.5365	230.00	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G12-020 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1413	107.4208	230.00	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G10-46 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.139	107.1065	230.00	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1413	106.972	230.00	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G12-020 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.139	106.7259	230.00	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1414	106.6811	230.00	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G10-46 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1414	106.296	230.00	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G12-020 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	105.6342	230.00	'Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1371	105.6162	230.00	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1388	105.4516	230.00	'TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	105.2281	230.00	'Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1371	105.2135	230.00	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1416	105.0704	230.00	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_035	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1388	104.9869	230.00	'TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1362	104.7576	230.00	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1416	104.2782	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1362	104.2059	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS		0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1406	103.7054	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS		0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1196	103.6187	'Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 & Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1366	103.2719	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1196	103.0058	'Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 & Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1407	102.9682	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1367	102.9077	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1417	102.2797	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1182	101.9686	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 & GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1417	101.5447	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1175	101.4868	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1183	101.3703	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 & GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1172	101.3146	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	18SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1172	101.3144	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1175	101.136	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1395	101.1205	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1202	101.002	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 & JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1176	100.8961	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1176	100.5453	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1396	100.3961	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	13SP	G12_035	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1202	100.3818	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 & JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS		0	2	18SP	G12_035	'FROM->TO'	'YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1405	100	'TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & AMOCO SWITCHING STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_035		2	18SP	G12_035	'FROM->TO'	'YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1405	100	'TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & AMOCO SWITCHING STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS		0	2	18SP	G12_036	'TO->FROM'	'ARCO WILLARD TAP - Bennett Sub 115KV CKT 1'	160	0.2624	106.2827	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	18SP	G12_036	'TO->FROM'	'ARCO WILLARD TAP - Bennett Sub 115KV CKT 1'	160	0.2624	106.2827	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0742	125.8174	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0742	125.7109	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.048	112.1033	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.048	111.993	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1'
	FDNS		0	2	18SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0731	110.8698	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'
	FDNS	00G12_036		2	18SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0731	110.8696	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.05	110.1579	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION EAST 230KV CKT 2'
	FDNS	00G12_036		2	13SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0497	110.1515	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION WEST 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0	2	13SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.05	110.1105	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION EAST 230KV CKT 2'	
	FDNS	0	2	13SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0497	110.0954	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - TOLK STATION WEST 230KV CKT 1'	
	FDNS	0	2	18SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0334	109.8905	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	18SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0334	109.8904	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	23SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0572	103.0682	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'	
	FDNS	00G12_036	2	23SP	G12_036	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0573	100.8085	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & NEWHART 230 - PLANT X STATION 230KV CKT 1'	
	FDNS	0	2	18SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	125.4307	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	18SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	125.4307	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	18SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	115.744	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	18SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2624	115.744	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	115.5555	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	13SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	114.7234	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	23SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.254	108.414	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	23SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.254	108.3276	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	105.993	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	13SP	G12_036	'TO->FROM'	'Bennett Sub - ODC TAP 115KV CKT 1'	154	0.2628	105.1453	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	18SP	G12_036	'FROM->TO'	'CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	351	0.0357	108.4336	'EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 & CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	18SP	G12_036	'FROM->TO'	'CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	351	0.0357	108.4336	'EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 & CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	18SP	G12_036	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.5138	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	18SP	G12_036	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.5138	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_036	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	101.8449	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	13SP	G12_036	'FROM->TO'	'CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	100.1875	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 & CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_036	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.0303	122.3162	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	13SP	G12_036	'FROM->TO'	'CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1'	96	0.0303	122.3111	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_036	'FROM->TO'	'DEAF SMITH REC-#20 - DEAF SMITH REC-#24 115KV CKT 1'	99	0.0303	101.6592	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	13SP	G12_036	'FROM->TO'	'DEAF SMITH REC-#20 - DEAF SMITH REC-#24 115KV CKT 1'	99	0.0303	101.652	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	18SP	G12_036	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2624	168.7948	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	18SP	G12_036	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2624	168.7948	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	13SP	G12_036	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2628	159.224	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	18SP	G12_036	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2624	158.9711	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	18SP	G12_036	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2624	158.9711	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	13SP	G12_036	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.2628	158.3788	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036	2	23SP	G12_036	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.254	150.7717	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0	2	23SP	G12_036	'FROM->TO'	'DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1'	160	0.254	150.699	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	0		2 13SP	G12_036	'FROM->TO'	'MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.6433	125.6827	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 13SP	G12_036	'FROM->TO'	'MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.6433	125.5298	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 18SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1925	125.3914	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 18SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1925	125.3914	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 18SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1925	119.3477	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 18SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1925	119.3477	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 23SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1832	116.1684	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 23SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1833	116.1081	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 13SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1927	115.3922	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 13SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1927	114.7666	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 23SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1832	110.4934	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 23SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1833	110.4332	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 13SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1927	109.637	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 13SP	G12_036	'FROM->TO'	'MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1'	160	0.1927	109.0048	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 18SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2624	130.2627	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 18SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2624	130.2627	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 18SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2624	120.7612	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 18SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2624	120.7612	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 13SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	120.5598	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 13SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	119.7428	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 23SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	113.6548	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 23SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	113.5754	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 13SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	111.3573	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 13SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.2628	110.5269	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 23SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	104.3214	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 23SP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	160	0.254	104.2409	'OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 13WP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	169	0.2629	103.1631	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 13WP	G12_036	'TO->FROM'	'ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1'	169	0.2629	102.7093	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 18SP	G12_036	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.4984	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 18SP	G12_036	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0559	131.4983	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	
	FDNS	0		2 13SP	G12_036	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	101.6712	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 13SP	G12_036	'TO->FROM'	'PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1'	160	0.0563	100	'CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1'	
	FDNS	00G12_036		2 13SP	G12_036	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.1099	101.6146	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	
	FDNS	0		2 13SP	G12_036	'FROM->TO'	'PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.1099	101.2896	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'	

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00G12_036		2	23SP	G12_036	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100.7685	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_036	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100.759	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	23SP	G12_036	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	23SP	G12_036	'FROM->TO'	'SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1829	100	'AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 & MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1105	132.3417	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1105	132.0616	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1755	129.2351	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1755	128.7528	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.094	127.9698	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0941	127.5347	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1064	125.8476	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1065	125.3326	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.094	123.9685	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.094	123.7221	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0941	123.5563	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0941	123.3121	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0936	121.8968	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0936	121.4625	'CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0929	120.5284	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	120.2116	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.0929	120.0653	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 & CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	119.7776	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1175	115.5711	'BASE CASE'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1176	114.8083	'BASE CASE'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1413	114.6655	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1414	113.9312	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 & JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	110.5872	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	110.1848	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	109.9396	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	109.5365	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1413	107.4208	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.139	107.1065	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	0		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1413	106.972	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 & G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.139	106.7259	'PLANT X STATION - TOLK STATION EAST 230KV CKT 2 & TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1414	106.6811	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1414	106.296	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1379	105.6342	'Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1371	105.6162	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1388	105.4516	'TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.138	105.2281	'Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1371	105.2135	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1416	105.0704	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1388	104.9869	'TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1362	104.7576	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1416	104.2782	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1362	104.2059	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1406	103.7054	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1196	103.6187	'Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1366	103.2719	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1196	103.0058	'Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1407	102.9682	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1367	102.9077	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1417	102.2797	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1182	101.9686	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1417	101.5447	'JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1175	101.4868	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1183	101.3703	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_036		2	18SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1172	101.3146	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	18SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1172	101.3144	'TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1175	101.136	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1395	101.1205	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS		0	2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1202	101.002	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1176	100.8961	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1176	100.5453	'ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1396	100.3961	'SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	13SP	G12_036	'FROM->TO'	'WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1'	154	0.1202	100.3818	'Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1'
	FDNS		0	2	18SP	G12_036	'FROM->TO'	'YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1405	100	'TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &AMOCO SWITCHING STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'
	FDNS	00G12_036		2	18SP	G12_036	'FROM->TO'	'YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2'	150	0.1405	100	'TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &AMOCO SWITCHING STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00G12_037		2	13SP	G12_037	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0346	125.8174	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	0		2	13SP	G12_037	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.0346	125.7109	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 & PLANT X STATION - S-RANDLCO 230.00 230KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0488	120.1601	'DBLCCT3'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0337	115.0396	'CIMARRON - NORTHWEST 345KV CKT 1 & MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0367	114.9204	'DVISN138PCBB'
	FDNS	00NR		3	18SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0468	114.679	'DBLCCT3'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0477	113.864	'DBLCCT3'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0408	110.9775	'DVISN138PCBA'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0385	109.8936	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0377	109.1751	'BUS23'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0477	109.0666	'DBLCCT4'
	FDNS	00NR		3	18SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0344	108.3545	'DVISN138PCBB'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0309	108.077	'MEMRL138PCB'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0417	106.1709	'BUS23'
	FDNS	00NR		3	18SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0322	106.0088	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.038	105.6872	'DBLCCT4'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0328	105.4728	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0357	103.6118	'BUS23'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0373	103.2515	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0344	103.0049	'MEMRL138PCB'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0322	102.3106	'DBLCCT5'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0391	102.0805	'CMARN186'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0373	101.7921	'CMARN384'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0373	101.7921	'DBLCCT8'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0322	101.1997	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0322	101.1902	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 2'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0322	101.1191	'DRAPR384'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0322	100.9912	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 3'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0372	100.9742	'CIMARRON - MINCO 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0326	100.8916	'CMARN384'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0326	100.8916	'DBLCCT8'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0323	100.7381	'DBLCCT6'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0323	100.6484	'DBLCCT7'
	FDNS	00NR		3	18SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.036	100.5198	'DBLCCT4'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		
								(MVA)	TDF	(%MVA)	CONTINGENCY	
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0323	100	'CIMARRON - MINCO 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_040	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	956	0.081	102.2755	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0396	163.4216	'CIMARRONR'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0384	159.1491	'CIMARRONR'
	FDNS	00NR		3	18SP	G12_040	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0369	157.7227	'CIMARRONR'
	FDNS	00NR		3	23SP	G12_040	'TO->FROM'	'CIMARRON - MATHWSN7 345.00 345KV CKT 1'	956	0.1672	117.6472	'MATHWSN7 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATHWSN7 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_040	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1217	141.0459	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_040	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.122	140.3934	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13SP	G12_040	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1714	133.692	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	18SP	G12_040	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1601	115.4276	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_040	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1217	141.0459	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_040	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.122	140.3934	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_040	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1714	133.692	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_040	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1601	115.4276	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0488	108.1091	'DBLCCT3'
	FDNS	00NR		3	18SP	G12_040	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0468	103.4514	'DBLCCT3'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0337	103.0401	'CIMARRON - NORTHWEST 345KV CKT 1 & MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0367	102.7448	'DVISN138PCBB'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0477	102.5531	'DBLCCT3'
	FDNS	00NR		3	23SP	G12_040	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0396	153.1919	'CIMARRONR'
	FDNS	00NR		3	13SP	G12_040	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0384	151.1951	'CIMARRONR'
	FDNS	00NR		3	18SP	G12_040	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0369	149.0483	'CIMARRONR'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0533	124.1777	'CIMARRONR'
	FDNS	00NR		3	18SP	G12_040	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0523	118.6773	'CIMARRONR'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0532	116.7593	'CIMARRONR'
	FDNS	00NR		3	23SP	G12_040	'TO->FROM'	'KINZE - MCELROY 138KV CKT 1'	222	0.0665	104.977	'CLEVELAND - SOONER 345KV CKT 1 & SOONER - SPRING CREEK 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'TO->FROM'	'KINZE - MCELROY 138KV CKT 1'	222	0.0585	101.2057	'CLEVELAND - SOONER 345KV CKT 1 & SOONER - WOODRING 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'KINZE - STILLWATER KINZIE 138KV CKT 1'	287	0.0334	101.2569	'CLEVELAND - SOONER 345KV CKT 1 & SOONER - SPRING CREEK 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'LACYGNE - NEOSHO 345KV CKT 1'	1159	0.0341	104.1232	'LACYGNE - WEST GARDNER 345KV CKT 1 & LACYGNE - STILWELL 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_040	'FROM->TO'	'MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1723	104.0676	'CIMARRON - MATHWSN7 345.00 345KV CKT 1 & CIMARRON - MATHWSN7 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_040	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.134	128.1844	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_040	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1347	127.6884	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13SP	G12_040	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1844	119.9665	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_040	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.0975	107.3968	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING	
								(MVA)	TDF	(%MVA)	CONTINGENCY
	FDNS	00NR	3	18WP	G12_040	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.0954	105.2397	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR	3	18SP	G12_040	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1709	103.644	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR	3	13SP	G12_040	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.031	132.9067	'MSTNG186'
	FDNS	00NR	3	23SP	G12_040	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.031	122.1223	'MSTNG186'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0517	120.1601	'DBLCCT3'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0324	115.0396	'CIMARRON - NORTHWEST 345KV CKT 1 & MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0392	114.9204	'DVISN138PCBB'
	FDNS	00NR	3	18SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0497	114.679	'DBLCCT3'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0502	113.864	'DBLCCT3'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0431	110.9775	'DVISN138PCBA'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0366	109.8936	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0402	109.1751	'BUS23'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0502	109.0666	'DBLCCT4'
	FDNS	00NR	3	18SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.037	108.3545	'DVISN138PCBB'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0324	108.077	'MEMRL138PCB'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0441	106.1709	'BUS23'
	FDNS	00NR	3	18SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0309	106.0088	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0404	105.6872	'DBLCCT4'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0343	105.4728	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR	3	18SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0382	103.6118	'BUS23'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0388	103.2515	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0358	103.0049	'MEMRL138PCB'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0344	102.3106	'DBLCCT5'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0413	102.0805	'CMARN186'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0397	101.7921	'CMARN384'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0397	101.7921	'DBLCCT8'
	FDNS	00NR	3	18SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0305	101.2114	'MEMRL138PCB'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0344	101.1997	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0344	101.1902	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 2'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0344	101.1191	'DRAPR384'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0344	100.9912	'CIMARRON - DRAPER LAKE 345KV CKT 1 & DRAPER LAKE - SEMINOLE 345KV CKT 3'
	FDNS	00NR	3	13SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0395	100.9742	'CIMARRON - MINCO 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0351	100.8916	'CMARN384'
	FDNS	00NR	3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0351	100.8916	'DBLCCT8'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		
								(MVA)	TDF	(%MVA)	CONTINGENCY	
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0345	100.7381	'DBLCCT6'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0346	100.6484	'DBLCCT7'
	FDNS	00NR		3	18SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0385	100.5198	'DBLCCT4'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'CIMARRON - CZECH HALL 138KV CKT 1'	382	0.0348	100	'CIMARRON - MINCO 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_041	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	956	0.0808	102.2755	'CIMARRON - NORTHWEST 345KV CKT 1 & MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0431	163.4216	'CIMARRONR'
	FDNS	00NR		3	13SP	G12_041	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0413	159.1491	'CIMARRONR'
	FDNS	00NR		3	18SP	G12_041	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0405	157.7227	'CIMARRONR'
	FDNS	08NR		3	13G	G12_041	'FROM->TO'	'CIMARRON - HAYMAKER 138KV CKT 1'	308	0.0316	103.4518	'CIMARRONR'
	FDNS	00NR		3	23SP	G12_041	'TO->FROM'	'CIMARRON - MATHWSN7 345.00 345KV CKT 1'	956	0.1644	117.6472	'MATHWSN7 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATHWSN7 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_041	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1185	141.0459	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_041	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1181	140.3934	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13SP	G12_041	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1644	133.692	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	18SP	G12_041	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1'	956	0.1568	115.4276	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_041	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1185	141.0459	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	13WP	G12_041	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1181	140.3934	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	13SP	G12_041	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1644	133.692	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_041	'TO->FROM'	'CIMARRON - MATTHEWSON 345.00 345KV CKT 2'	956	0.1568	115.4276	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0517	108.1091	'DBLCCT3'
	FDNS	00NR		3	18SP	G12_041	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0497	103.4514	'DBLCCT3'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0324	103.0401	'CIMARRON - NORTHWEST 345KV CKT 1 & MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0392	102.7448	'DVISN138PCBB'
	FDNS	00NR		3	13SP	G12_041	'FROM->TO'	'CZECH HALL - XEROX 138KV CKT 1'	382	0.0502	102.5531	'DBLCCT3'
	FDNS	00NR		3	23SP	G12_041	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0431	153.1919	'CIMARRONR'
	FDNS	00NR		3	13SP	G12_041	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0413	151.1951	'CIMARRONR'
	FDNS	00NR		3	18SP	G12_041	'TO->FROM'	'DIVISION AVE - HAYMAKER 138KV CKT 1'	308	0.0405	149.0483	'CIMARRONR'
	FDNS	00NR		3	13SP	G12_041	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0563	124.1777	'CIMARRONR'
	FDNS	00NR		3	18SP	G12_041	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0555	118.6773	'CIMARRONR'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'DIVISION AVE - MUSTANG 138KV CKT 1'	287	0.0565	116.7593	'CIMARRONR'
	FDNS	00NR		3	23SP	G12_041	'TO->FROM'	'KINZE - MCELROY 138KV CKT 1'	222	0.0482	104.977	'CLEVELAND - SOONER 345KV CKT 1 & SOONER - SPRING CREEK 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_041	'TO->FROM'	'KINZE - MCELROY 138KV CKT 1'	222	0.0394	101.2057	'CLEVELAND - SOONER 345KV CKT 1 & SOONER - WOODRING 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'LACYGNE - NEOSHO 345KV CKT 1'	1159	0.0412	104.1232	'LACYGNE - WEST GARDNER 345KV CKT 1 & LACYGNE - STILWELL 345KV CKT 1'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'MATHWSN7 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1649	104.0676	'CIMARRON - MATHWSN7 345.00 345KV CKT 1 & CIMARRON - MATHWSN7 345.00 345KV CKT 2'
	FDNS	00NR		3	18WP	G12_041	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1259	128.1844	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB		TC%LOADING		CONTINGENCY
								(MVA)	TDF	(%MVA)		
	FDNS	00NR		3	13WP	G12_041	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1259	127.6884	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13SP	G12_041	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1717	119.9665	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13WP	G12_041	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.0762	107.3968	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	18WP	G12_041	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.0743	105.2397	'CIMARRON - NORTHWEST 345KV CKT 1 & CIMARRON - DRAPER LAKE 345KV CKT 1'
	FDNS	00NR		3	18SP	G12_041	'FROM->TO'	'MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1'	1195	0.1628	103.644	'CIMARRON - MATTHEWSON 345.00 345KV CKT 1 & CIMARRON - MATTHEWSON 345.00 345KV CKT 2'
	FDNS	00NR		3	13SP	G12_041	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0371	132.9067	'MSTNG186'
	FDNS	00NR		3	18SP	G12_041	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0331	125.651	'MSTNG186'
	FDNS	00NR		3	23SP	G12_041	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0377	122.1223	'MSTNG186'
	FDNS	00NR		3	13SP	G12_041	'FROM->TO'	'QUAIL CREEK - SKYLINE 138KV CKT 1'	308	0.0305	103.1177	'CIMARRONR'
	FDNS	00G12_042		2	23SP	G12_042	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.0474	108.2364	'BENTON - WICHITA 345KV CKT 1 & BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00G12_042		2	23SP	G12_042	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.061	102.9063	'BENTON - WICHITA 345KV CKT 1 & VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	18SP	G12_042	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.0475	102.519	'BENTON - WICHITA 345KV CKT 1 & BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00G12_042		2	23SP	G12_042	'TO->FROM'	'CHISHOLM - MAIZEE 4 138.00 138KV CKT 1'	382	0.0454	100	'BENTON - ROSE HILL 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	23SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0474	113.1571	'BENTON - WICHITA 345KV CKT 1 & BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00G12_042		2	23SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.061	107.8104	'BENTON - WICHITA 345KV CKT 1 & VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	18SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0475	106.8828	'BENTON - WICHITA 345KV CKT 1 & BENTON - WOLF CREEK 345KV CKT 1'
	FDNS	00G12_042		2	23SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0454	104.8831	'BENTON - ROSE HILL 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	23SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.055	103.8735	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	18SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.061	102.3796	'BENTON - WICHITA 345KV CKT 1 & VIOLA 7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	18SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.055	100.1907	'EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	23SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0411	100.0661	'RENO COUNTY - WICHITA 345KV CKT 1 & BENTON - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	23SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0453	100	'BENTON - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	23SP	G12_042	'FROM->TO'	'EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1'	382	0.0453	100	'BENTON - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_042		2	23SP	G12_042	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0473	109.3385	'AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 & EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1'
	FDNS	00G12_042		2	13SP	G12_042	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.0473	108.4343	'AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 & EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1'
	FDNS	00G12_042		2	18SP	G12_042	'TO->FROM'	'HOYT - JEFFREY ENERGY CENTER 345KV CKT 1'	1076	0.047	107.7655	'AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 & EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1'
	FDNS	00G12_042		2	13WP	G12_042	'FROM->TO'	'MOUNDRIDGE (MOUND10X) 138/115/13.8KV TRANSFORMER CKT 1'	110	0.0336	124.8093	'RENO COUNTY - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	13WP	G12_042	'FROM->TO'	'MOUNDRIDGE (MOUND10X) 138/115/13.8KV TRANSFORMER CKT 1'	110	0.0336	124.8093	'RENO COUNTY - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_042		2	13WP	G12_042	'FROM->TO'	'MOUNDRIDGE (MOUND10X) 138/115/13.8KV TRANSFORMER CKT 1'	110	0.0336	124.5719	'RENO COUNTY - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	13WP	G12_042	'FROM->TO'	'MOUNDRIDGE (MOUND10X) 138/115/13.8KV TRANSFORMER CKT 1'	110	0.0336	124.5719	'RENO COUNTY - WICHITA 345KV CKT 1 & THISTLE7 345.00 - WICHITA 345KV CKT 2'
	FDNS	00G12_042		2	13WP	G12_042	'FROM->TO'	'MOUNDRIDGE (MOUND10X) 138/115/13.8KV TRANSFORMER CKT 1'	110	0.0375	120.4465	'RENO COUNTY - SUMMIT 345KV CKT 1 & RENO COUNTY - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	13WP	G12_042	'FROM->TO'	'MOUNDRIDGE (MOUND10X) 138/115/13.8KV TRANSFORMER CKT 1'	110	0.0375	120.4465	'RENO COUNTY - SUMMIT 345KV CKT 1 & RENO COUNTY - WICHITA 345KV CKT 1'
	FDNS	00G12_042		2	13SP	G12_042	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0322	106.665	'NOWST382'
	FDNS	00G12_042		2	13SP	G12_042	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.0322	104.4064	'NOWST382'

EVENTTYPE	SOLUTIONTYPE	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (%MVA)	CONTINGENCY
	FDNS	03NR		3 13G	G12_042	'TO->FROM'	'MULLERGREN - SPEARVILLE 230KV CKT 1'	398	0.0441	100.4285	'G12-11T 345.00 - POST ROCK 345KV CKT 1 &G12-11T 345.00 - POST ROCK 345KV CKT 2'