



**FEASIBILITY CLUSTER
STUDY FOR GENERATOR
INTERCONNECTION
REQUESTS**

FCS-2016-004

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By SPP Generator Interconnections Dept.

REVISION HISTORY

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1 INTRODUCTION

Pursuant to the Southwest Power Pool (SPP) Open Access Transmission Tariff (OATT), SPP has conducted this Feasibility Cluster Study (FCS) for generation interconnection requests received during the FCS Queue Cluster Window, which closed on November 30, 2016. The customers will be referred to in this study as the FCS Interconnection Customers. This FCS analyzes the impact of interconnecting new generation totaling 2,282.5 MW to the SPP Transmission System. The interconnecting SPP Transmission Owners include:

- Grand River Dam Authority (GRDA)
- Nebraska Public Power District (NPPD)
- Oklahoma Gas and Electric (OKGE)
- Southwestern Public Service (SPS)
- Western Area Power Administration (WAPA)
- Westar Energy, Inc. (WERE)

The generation interconnection requests included in this System Impact Study are listed in Appendix A by queue number, amount, requested interconnection service type, area, requested interconnection point, proposed interconnection point, and the requested in-service date.

Within the study scope of the Feasibility Cluster Studies, each request was analyzed based on the following number of POI assumptions.

Table 1: POI Assumptions

Interconnection Requests	Number of POIs
GEN-2016-089	1 – primary, 1-secondary
GEN-2016-090	1 – primary
GEN-2016-093	1 – primary
GEN-2016-098	1 – primary, 1-secondary
GEN-2016-099	1 – primary, 2-secondary
GEN-2016-104	1 – primary
GEN-2016-107	1 – primary
GEN-2016-109	1 – primary
GEN-2016-117	1 – primary, 1-secondary
GEN-2016-154	1 – primary

GEN-2016-156	1 - primary
GEN-2016-170	1 - primary, 1-secondary

Nineteen (19) scenario assumption analyses were conducted for the current study to account for all combinations of Point of Interconnections and their appropriate cluster groupings. **Table 1** displays the Nineteen (19) analyses that were performed. Interconnection Requests dispatching is explained in further detail in the Model Development Section.

Table 2: Nineteen (19) ERS Analysis Assumptions

Scenario Number	Scenario Description	Interconnection Requests	Point of Interconnection (POI)
Scenario #1	Group 01 ERIS HVER & Group 01 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
Scenario #2	Group 01 ERIS HVER & Group 01 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Woodward District 138 kV
		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
Scenario #3	Group 02 ERIS HVER	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
GEN-2016-156	Texas County 115 kV		

		GEN-2016-170	Kelly 115 kV
Scenario #4	Group 06 ERIS HVER & Group 06 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
		Scenario #5	Group 06 ERIS HVER & Group 06 NRIS
GEN-2016-090	Pleasant Hill 115 kV		
GEN-2016-093	Stegall 115kV		
GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)		
GEN-2016-099	Tap Deaf Smith - Plant X 230 kV		
GEN-2016-104	Woodring 345 kV		
GEN-2016-107	Tap Cederdale - Okeene 138 kV		
GEN-2016-109	Fairbury 115 kV		
GEN-2016-117	Pleasant Hill 115 kV		
GEN-2016-156	Texas County 115 kV		
GEN-2016-170	Kelly 115 kV		
Scenario #6	Group 06 ERIS HVER & Group 06 NRIS		
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Tap Deaf Smith - Plant X 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
		Scenario #7	Group 06 ERIS HVER & Group 06 NRIS
GEN-2016-090	Pleasant Hill 115 kV		
GEN-2016-093	Stegall 115kV		
GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)		

		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 115 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
Scenario #8	Group 06 ERIS HVER & Group 06 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Tap Deaf Smith - Plant X 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 115 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
Scenario #9	Group 06 ERIS HVER & Group 06 NRIS	GEN-2016-089	Tap Roosevelt North - Tolk West 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
Scenario #10	Group 06 ERIS HVER & Group 06 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Tap Deaf Smith - Plant X 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV

		GEN-2016-170	Kelly 115 kV
Scenario #11	Group 06 ERIS HVER & Group 06 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 115 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
		Scenario #12	Group 06 ERIS HVER & Group 06 NRIS
GEN-2016-090	Pleasant Hill 115 kV		
GEN-2016-093	Stegall 115kV		
GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)		
GEN-2016-099	Castro County 115 kV		
GEN-2016-104	Woodring 345 kV		
GEN-2016-107	Tap Cederdale - Okeene 138 kV		
GEN-2016-109	Fairbury 115 kV		
GEN-2016-117	Pleasant Hill 115 kV		
GEN-2016-156	Texas County 115 kV		
GEN-2016-170	Kelly 115 kV		
Scenario #13	Group 06 ERIS HVER & Group 06 NRIS		
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Castro County 115 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
		Scenario #14	Group 06 ERIS HVER & Group 06 NRIS
GEN-2016-090	Pleasant Hill 115 kV		
GEN-2016-093	Stegall 115kV		
GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)		

		GEN-2016-099	Castro County 115 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 115 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
Scenario #15	Group 06 ERIS HVER & Group 06 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Castro County 115 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
Scenario #16	Group 08 ERIS HVER & Group 08 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
Scenario #17	Group 09 ERIS HVER & Group 09 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV

		GEN-2016-170	Smittyville 115 kV
Scenario #18	Group 13 ERIS HVER & Group 13 NRIS	GEN-2016-089	Tap Roosevelt South - Tolk East 230 kV
		GEN-2016-090	Pleasant Hill 115 kV
		GEN-2016-093	Stegall 115kV
		GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)
		GEN-2016-099	Deaf Smith 230 kV
		GEN-2016-104	Woodring 345 kV
		GEN-2016-107	Tap Cederdale - Okeene 138 kV
		GEN-2016-109	Fairbury 115 kV
		GEN-2016-117	Pleasant Hill 230 kV
		GEN-2016-156	Texas County 115 kV
		GEN-2016-170	Kelly 115 kV
		Scenario #19	Group 00 ERIS LVER
GEN-2016-090	Pleasant Hill 115 kV		
GEN-2016-093	Stegall 115kV		
GEN-2016-098	Tap Hitchland – Woodward 345kV DBL CKT (GEN-2016-003 345kV)		
GEN-2016-099	Deaf Smith 230 kV		
GEN-2016-104	Woodring 345 kV		
GEN-2016-107	Tap Cederdale - Okeene 138 kV		
GEN-2016-109	Fairbury 115 kV		
GEN-2016-117	Pleasant Hill 230 kV		
GEN-2016-154	GRDA 161kV		
GEN-2016-156	Texas County 115 kV		
GEN-2016-170	Kelly 115 kV		

The primary objective of this Feasibility Cluster Study is to identify the system constraints associated with connecting the generation to the area transmission system. The Feasibility 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.

If any Interconnection Requests are withdrawn from the higher queued studies including DISIS-2016-001, then potential upgrades tentatively assigned to those Interconnection Requests may be assigned to the Interconnection Requests in this FCS-2016-004 study once these Interconnection Requests execute a Definitive Interconnection System Impact Study Agreement.

2 MODEL DEVELOPMENT (STUDY ASSUMPTIONS)

2.1 INTERCONNECTION REQUESTS INCLUDED IN THE CLUSTER

This FCS includes all interconnection requests that were submitted during the FCS Queue Cluster Window that met all of the requirements of the Generator Interconnection Procedures (GIP) that were in effect at the time this study commenced. [Appendix A](#) lists the interconnection requests that are included in this study.

2.2 AFFECTED SYSTEM INTERCONNECTION REQUEST

Affected System Interconnection Requests included in this study are listed in [Appendix A](#) with the “ASGI” prefix. Affected System Interconnection Requests were only studied in “cluster” scenarios.

2.3 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 requests were dispatched as Energy Resource Interconnection Service (ERIS) resources with equal distribution across the SPP footprint. Prior-queued requests that requested Network Resource Interconnection Service (NRIS) were also dispatched in separate NRIS scenarios sinking into the area of the interconnecting transmission owner.

2.4 DEVELOPMENT OF BASE CASES

2.4.1 POWER FLOW

The power flow models used for this study are based on the 2015-series Integrated Transmission Planning models used for the 2016 ITP-Near Term analysis. These models include:

- Year 1 2016 winter peak (16WP)
- Year 2 2017 spring (17G)
- Year 2 2017 summer peak (17SP)
- Year 5 2020 summer (20SP)
- Year 5 2020 winter peak (20WP)
- Year 10 2025 summer peak (25SP)

2.4.2 DYNAMIC STABILITY

Dynamic stability studies performed as part of the PISIS and DISIS Cluster Studies will provide additional guidance as to whether required reactive compensation can be static or a portion must be dynamic (such as a SVC).

2.4.3 SHORT CIRCUIT

Short circuit analysis is performed as part of the PISIS and DISIS Cluster Studies will provide additional guidance as to whether required reactive compensation can be static or a portion must be dynamic (such as a SVC).

2.4.4 BASE CASE UPGRADES

The facilities listed in the table below are part of the current SPP Transmission Expansion Plan, the Balanced Portfolio, or recently approved Priority Projects. These facilities have an approved Notification 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 Interconnection Customers have not been assigned advancement costs for the projects listed below.

The FCS Interconnection Customers' Generation Facilities in-service dates may need to be delayed until the completion of the following upgrades. In some cases, the in-service date is beyond the allowable time a customer can delay. If the requests proceed forward into the DISIS then in this case, the Interconnection Customer may move forward after the DISIS with Limited Operation or remain in the DISIS Queue for additional study cycles. If, for some reason, construction on these projects is discontinued, additional restudies will be needed to determine the interconnection needs of the Interconnection Customers during the DISIS.

SPP Notification to Construct (NTC) ID	Project Owner	Upgrade Name	Estimated Date of Upgrade Completion (EOC)
200223	OGE	Tatonga - Woodward District EHV 345 kV Ckt 2	7/1/2018
200223	OGE	Matthewson - Tatonga 345 kV Ckt 2	7/1/2018
200240	OGE	Chisholm - Gracemont 345 kV Ckt 1 (OGE)	3/1/2018
200255	AEP	Chisholm - Gracemont 345kV Ckt 1 (AEP)	3/1/2018
200255	AEP	Chisholm 345/230 kV Substation	3/1/2018
200255	AEP	Chisholm 230 kV	3/1/2018
200360	SPS	IMC #1 Tap - Livingston Ridge 115 kV Ckt 1 Rebuild	11/16/2018
200360	SPS	Intrepid West - Potash Junction 115 kV Ckt 1 Rebuild	11/16/2018
200360	SPS	IMC #1 Tap - Intrepid West 115 kV Ckt 1 Rebuild	11/16/2018
200360	SPS	Cardinal - Targa 115 kV Ckt 1 Rebuild	5/31/2018
200360	SPS	National Enrichment Plant - Targa 115 kV Ckt 1	8/15/2017
200391	OGE	DeGrasse 345 kV Substation	6/1/2017 (RTO Determined Need Date)
200391	OGE	DeGrasse 345/138 kV Transformer	6/1/2017 (RTO Determined Need Date)
200391	OGE	DeGrasse - Knob Hill 138 kV New Line	6/1/2017 (RTO Determined Need Date)
200391	OGE	DeGrasse 138 kV Substation (OGE)	6/1/2017 (RTO Determined Need Date)
200220	NPPD	Cherry Co. (Thedford) - Gentleman 345 kV Ckt 1	10/1/2019
200220	NPPD	Cherry Co. (Thedford) Substation 345 kV	10/1/2019
200220	NPPD	Cherry Co. (Thedford) - Holt Co. 345 kV Ckt 1	10/1/2019
200220	NPPD	Holt Co. Substation 345 kV	10/1/2019
200253	NPPD	Neligh 345/115 kV Substation	6/1/2017

SPP Notification to Construct (NTC) ID	Project Owner	Upgrade Name	Estimated Date of Upgrade Completion (EOC)
200309	SPS	Hobbs 345/230 kV Ckt 1 Transformer	6/1/2018
200309	SPS	Hobbs - Yoakum 345 kV Ckt 1	6/1/2020
200395	SPS	Tuco - Yoakum 345 kV Ckt 1	6/1/2020
200395	SPS	Yoakum 345/230 kV Ckt 1 Transformer	6/1/2020
200256	SPS	Chaves - Price 115 kV Ckt 1 Rebuild	12/30/2017
200256	SPS	CV Pines - Price 115 kV Ckt 1 Rebuild	12/30/2017
200256	SPS	Capitan - CV Pines 115 kV Ckt 1 Rebuild	12/30/2017
200282	SPS	China Draw - Yeso Hills 115 kV Ckt 1	6/1/2018
200282	SPS	Dollarhide - Toboso Flats 115 kV Ckt 1	6/1/2018
200309	SPS	Hobbs - Kiowa 345 kV Ckt 1	6/1/2018
200309	SPS	Kiowa 345 kV Substation	6/1/2018
200309	SPS	Kiowa - North Loving 345 kV Ckt 1	6/1/2018
200309	SPS	North Loving 345 kV Terminal Upgrades	6/1/2018
200309	SPS	China Draw - North Loving 345 kV Ckt 1	6/1/2018
200309	SPS	China Draw 345 kV Ckt 1 Terminal Upgrades	6/1/2018
200309	SPS	China Draw 345/115 kV Ckt 1 Transformer	6/1/2018
200309	SPS	North Loving 345/115 kV Ckt 1 Transformer	6/1/2018
200309	SPS	Kiowa 345/115 kV Ckt 1 Transformer	6/1/2018
200395	SPS	Livingston Ridge 115 kV Substation Conversion	8/31/2017
200411	SPS	Livingston Ridge - Sage Brush 115 kV Ckt 1	6/1/2018
200309	SPS	Sage Brush 115 kV Substation	12/16/2016
200309	SPS	Largarto - Sage Brush 115 kV Ckt 1	12/15/2016
200309	SPS	Lagarto 115 kV Substation	6/1/2018
200309	SPS	Cardinal - Lagarto 115 kV Ckt 1	12/15/2016
200309	SPS	Cardinal 115 kV Substation	12/15/2016
200411	SPS	Ponderosa - Ponderosa Tap 115 kV Ckt 1	6/1/2017
20097	TSMO	Sibley - Mullin Creek 345 kV	12/31/2016
200365	SPS	South Jal - Teague 115kV CKT 1 Rebuild/Re-conductor	6/1/2021
200365	SPS	Teague - National Enrichment Plant 115kV CKT 1	6/1/2018
20097	TSMO	Nebraska City - Mullin Creek 345 kV (GMO)	12/31/2016
20098	OPPD	Nebraska City - Mullin Creek 345 kV (OPPD)	12/31/2016
200395	SPS	Canyon West – Dawn – Panda – Deaf Smith 115kV Ckt 1	12/15/2018
200369	SPS	Canyon East Sub – Randall County Interchange 115kV Ckt 1	12/31/2020
200359	SPS	Carlisle 230/115kV transformer replacement	12/31/2017
200309	SPS	Hobbs – Yoakum – TUCO 345kV project	6/1/2018
200395	SPS	Terry County – Wolfforth 115kV Ckt 1 terminal equipment replacement	6/1/2018
200391	OGE	DeGrasse 345/138kV project	6/1/2017
200396	WFEC	DeGrasse 345/138kV project	6/1/2017
200395	SPS	Harrington East – Potter 230kV Ckt 1 terminal equipment replacement	6/1/2019
200228	WERE	Viola 345/138kV project	6/1/2018
200228	MKEC	Viola 345/138kV project	6/1/2018
200395	SPS	Seminole 230/115kV transformer Ckt 1 & 2 replacement	5/15/2018
200262	SPS	Yoakum County Interchange 230/115kV transformer Ckt 1 & 2 replacement	6/1/2019

2.4.5 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 this study and are assumed to be in service. This list may not be all-inclusive. The FCS Interconnection Customers, at this time, do not have cost responsibility for these facilities but may later be assigned

cost if higher-queued customers terminate their Generation Interconnection Agreement or withdraw from the interconnection queue. The FCS Interconnection Customer Generation Facilities in-service dates may need to be delayed until the completion of the following upgrades.

Assigned Study	Upgrade Name	Estimated Date of Upgrade Completion (EOC)
DISIS-2010-002	Twin Church - Dixon County 230kV Conductor Clearance Increase	11/1/2018
DISIS-2010-002	Buckner - Spearville 345 kV Ckt 1 Upgrade Terminal Equipment	12/31/2017
DISIS-2011-001	Hoskins - Dixon County 230kV Conductor Clearance Increase	11/1/2018
DISIS-2011-001	Woodward EHV 138kV Phase Shifting Transformer circuit #1	6/1/2017
DISIS-2013-002	Antelope - County Line - 115kV Rebuild/Re-conductor	5/1/2017
DISIS-2013-002	Battle Creek - County Line 115kV Rebuild/Re-conductor	5/1/2017
DISIS-2014-002	Arnold-Ransom 115kV Ckt 1 Replace Terminal Equipment	11/25/2017
DISIS-2014-002	Ransom-Ness City 115kV Ckt 1 Replace Terminal Equipment	11/25/2017
DISIS-2014-002	Plant X - Tolk 230kV circuit #1 Rebuild	5/31/2018
DISIS-2014-002	Plant X - Tolk 230kV circuit #2 Rebuild	5/31/2018
DISIS-2014-002	TUCO Interchange 345/230kV transformer CKT 1 Replacement	6/1/2018
DISIS-2015-001	Kress Interchange – Swisher 115kV circuit #1 Replace Terminal Equipment	TBD
DISIS-2015-001	Oklauion 345kV Reactive Power Support Install two (2) 130Mvar Capacitor Bank(s)	TBD
DISIS-2015-001	(NRIS Only) Potter County Interchange 345/230/13kV Transformer circuit #2 Build	TBD
DISIS-2015-001	(NRIS Only) Renfrow – Renfrow 138kV circuit #1 Replace Terminal Equipment	TBD
DISIS-2015-001	Build new 345/230kV substation along TUCO – Border 345kV and TUCO – Swisher 230kV. Tie in and Terminate TUCO 345kV, Border 345kV, TUCO 230kV, and Swisher 230kV at Crawfish Draw. Build 345/230/13kV transformer	TBD
DISIS-2015-002	Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	TBD
DISIS-2015-002	Border - Chisholm 345kV CKT 2	TBD
DISIS-2015-002	Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	TBD
DISIS-2015-002	Chisholm Substation Expansion 345kV	TBD
DISIS-2015-002	Cleo Corner - Cleo Plant Tap 138kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2015-002	Cleveland - Silver City 138kV CKT 1 Conductor Clearance Increase	TBD
DISIS-2015-002	Cornville Tap - Naples Tap 138kV CKT 1 Rebuild	TBD
DISIS-2015-002	Crawfish Draw - Border 345kV CKT 2 Build	TBD
DISIS-2015-002	Daglum - Dickinson 230kV CKT 1 Build	TBD
DISIS-2015-002	Dickinson 230/115/13.8kV Transformer CKT 2 Build	TBD
DISIS-2015-002	Gavins Point - Yankton Junction 115kV CKT 1 Rebuild	TBD
DISIS-2015-002	GEN-2015-063 Tap - Mathewson 345kV CKT 1 Replace Structures	TBD
DISIS-2015-002	Grapevine - Nichols 230kV CKT 1	TBD
DISIS-2015-002	Grapevine - Wheeler 230kV CKT 1	TBD
DISIS-2015-002	Naples Tap - Payne 138kV CKT 1 Rebuild	TBD
DISIS-2015-002	Norge - Southwest Station 138kV CKT 1	TBD
DISIS-2015-002	Oklauion 345kV Reactive Power Support Incremental Upgrade Install +/-100Mvar SVC at Oklauion	TBD
DISIS-2015-002	Albion - Petersburg - North Petersburg 115kV CKT 1	TBD

Assigned Study	Upgrade Name	Estimated Date of Upgrade Completion (EOC)
DISIS-2015-002	Wheeler - Sweetwater 230kV CKT 1	TBD
DISIS-2015-002	Woodward 345/138/13kV Transformer CKT 3	TBD
DISIS-2016-001	Andrews 345/115/13kV Transformer CKT 1	TBD
DISIS-2016-001	Andrews 345/115/13kV Transformer CKT 2	TBD
DISIS-2016-001	Andrews Substation 230 to 345kV Voltage Conversion	TBD
DISIS-2016-001	Asarco Tap - Highland Park 115kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Banner County - Keystone 345kV CKT 1 Build	TBD
DISIS-2016-001	Bearcat - Mooreland 138kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Beaver County - Clark County 345kV CKT 1 Build	TBD
DISIS-2016-001	Beaver County - Grapevine 345kV CKT 1 Build	TBD
DISIS-2016-001	BEPC Laramie Stability Limit Mitigation	TBD
DISIS-2016-001	Bismark - Hilken 230kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	Broadland – Split Rock 345kV CKT 1 Build	TBD
DISIS-2016-001	Broadland 345/230/13kV Transformer CKT 2 Build	TBD
DISIS-2016-001	Bushland - Potter County 230kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Caney River - Neosho 345kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Cleveland - Tulsa 345kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Crawfish Draw - Seminole 765kV CKT 1 Build	TBD
DISIS-2016-001	Crawfish Draw - TUCO 345kV CKT 2 Build	TBD
DISIS-2016-001	Crawfish Draw - Yoakum 345kV Re-termination	TBD
DISIS-2016-001	Crawfish Draw 765/345kV Transformer CKT 1 & 2 Build	TBD
DISIS-2016-001	Crawfish Draw 765kV Substation Expansion	TBD
DISIS-2016-001	DeGrasse - Rose Valley 138kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Drinkard - Drinkard Tap 115kV CKT 1 Rebuild	TBD
DISIS-2016-001	Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild	TBD
DISIS-2016-001	Farber - Belle Plains 138kV CKT 1 Rebuild	TBD
DISIS-2016-001	GEN-2009-001IS - Groton 345kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	GEN-2009-001IS - Watertown 345kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	GEN-2014-074 Tap 345kV Reactive Power Support Build	TBD
DISIS-2016-001	GEN-2016-012 Tap - LaCygne 345kV CKT 1 Rebuild	TBD
DISIS-2016-001	GEN-2016-012 Tap - Waverly Tap 345kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	GEN-2016-044 Tap - Emmons 345kV CKT 1 Build	TBD
DISIS-2016-001	GEN-2016-044 Tap - Groton 345kV CKT 2 Build	TBD
DISIS-2016-001	Gerald Gentleman Station Flowgate Stability Limit Mitigation	TBD
DISIS-2016-001	Grapevine - Chisholm 345kV CKT 1 Build	TBD
DISIS-2016-001	Grapevine Substation 345kV Build	TBD
DISIS-2016-001	Harrington West - Harrington Mid Bus 230kV CKT 1 Upgrade bus tie	TBD
DISIS-2016-001	Harrington West - Potter County 230kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	Hereford Capacitor Bank Build	TBD
DISIS-2016-001	Highland Park Tap - Pantex South 115kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Hobbs - GEN-2014-012 Tap - Andrews Voltage Conversion	TBD
DISIS-2016-001	Hunter - Woodring 345kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Keystone - Gentleman 345kV CKT 2 Build	TBD
DISIS-2016-001	Kildare - White Eagle 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	Kinsley - Pawnee 115kV CKT 1 Conductor Clearance Increase	TBD
DISIS-2016-001	Kinze - McElroy 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	Knoll - Post Rock 230kV CKT 2 Build	TBD

Assigned Study	Upgrade Name	Estimated Date of Upgrade Completion (EOC)
DISIS-2016-001	Martin - Pantex North 115kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Mathewson - Northwest 345kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Middleton Tap - Chilocco 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	National Enrichment Plant - Drinkard 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	Neosho - Riverton 161kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	Northwest - Spring Creek 345kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars	TBD
DISIS-2016-001	Osage - Webb Tap 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	Osage - White Eagle 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	Pauline - Rosemont 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	Pauline - Rosemont 115kV CKT 2 Build	TBD
DISIS-2016-001	Potter County - Grapevine 345kV CKT 1 Build	TBD
DISIS-2016-001	Seminole 765/345kV Transformer CKT 1 & 2 Build	TBD
DISIS-2016-001	Seminole 765kV Substation Expansion	TBD
DISIS-2016-001	Split Rock - White 345kV CKT 1 Replace Terminal Equipment	TBD
DISIS-2016-001	Tolk - Crawfish Draw 345kV CKT 1 Build	TBD
DISIS-2016-001	Tolk - Potter County 345kV CKT 1 Build	TBD
DISIS-2016-001	Tolk 345/230/13kV Transformer CKT 2	TBD
DISIS-2016-001	Viola 345/138/13kV Transformer CKT 2 Build	TBD
DISIS-2016-001	Watertown - White 345kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	Watertown 345/230/13kV Transformer CKT 1 Replacement	TBD
DISIS-2016-001	Wolf Creek - Neosho 345kV CKT 1 Build	TBD
DISIS-2016-001	Wolf Creek Generation Plant Studies and Agreements	TBD
DISIS-2016-001	(NRIS Only) Altoona - Bulter 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Belden - Hartington 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Bethel - Broken Bow 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Bristol - Summit 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Carlisle - LP-Doud 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Clayton - Nashoba 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Cleveland - Cleveland 138kV CKT Z1 Replace Bus Tie	TBD
DISIS-2016-001	(NRIS Only) Cleveland 345/138/13kV Transformer CKT 2 Build	TBD
DISIS-2016-001	(NRIS Only) Clinton Junction - Elk City 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Columbus East 230/115/13kV CKT 1 Replacement	TBD
DISIS-2016-001	(NRIS Only) Cox Interchange - Hale County 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Crete - Friend 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Denver - ShellC2 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Denver South - San Andres Tap 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Eagle - Pahoja 230kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) East Plant Interchange - Harrington Station 230kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) East Plant 230/115/13kV Transformer CKT 2 Build	TBD
DISIS-2016-001	(NRIS Only) Eddy County 230/115/13kV Transformer CKT 3 Build	TBD
DISIS-2016-001	(NRIS Only) Fairbury - GEN-2015-087 Tap 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Fairbury - Harbine 115kV CKT 1 Rebuild/Re-conductor	TBD

Assigned Study	Upgrade Name	Estimated Date of Upgrade Completion (EOC)
DISIS-2016-001	(NRIS Only) Fairfax Tap - Shidler 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Fargo - Sheyenne 230kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Fort Randall - Sioux City 230kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) Gavins Point - Hartington 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) GEN-2013-001 - Summit 115kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) GEN-2015-079 Tap - Hobbs 230kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) Glenham - Mound City 230kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) Grand Island - Grand Praire 345kV CKT 1 Upgrade Terminal Equipment and Conductor Clearance Increase	TBD
DISIS-2016-001	(NRIS Only) Groton - Bristol 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Harbine - Beatrice 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Hobbs 230/115/13kV Transformer CKT 1 Replacement	TBD
DISIS-2016-001	(NRIS Only) Hugo - Valliant 138kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) Jones - Lubbock Holly 230kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) Kinze - Stillwater 138kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) Litchfield - Asbury 161kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) LP-Doud - SP-Wolf 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Lubbock Holly 230/69/13kV CKT 2 Build	TBD
DISIS-2016-001	(NRIS Only) Lubbock Milwaukee 230/69/13kV CKT 2 Build	TBD
DISIS-2016-001	(NRIS Only) Meadow Grove - Kelly 230kV CKT 1 Conductor Clearance Increase	TBD
DISIS-2016-001	(NRIS Only) Meadow Grove - North Petersburg 115kV CKT 1 Build	TBD
DISIS-2016-001	(NRIS Only) Meadow Grove 230/115/13kV Transformer CKT 1 Build	TBD
DISIS-2016-001	(NRIS Only) Mustang 230/115/13.2KV Transformer CKT 2 Build	TBD
DISIS-2016-001	(NRIS Only) Napa Junction - Utica 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Napa Junction - Yankton Junction 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Nashoba - Bethel 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Pahoja - Sioux Falls 230kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Plymouth - Sioux City 161kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Rasmussen - Sioux City 230kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) San Andres Tap - Seminole 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Seminole 230/115/13kV Transformer CKT 1 Replacement	TBD
DISIS-2016-001	(NRIS Only) Seminole 230/115/13kV Transformer CKT 2 Replacement	TBD
DISIS-2016-001	(NRIS Only) ShellC2 - ShellC2 Tap 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Sioux City - Split Rock 345kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) Sioux City 230/161/13kV Transformer CKT 1 Replacement	TBD
DISIS-2016-001	(NRIS Only) Sioux City 230/161/13kV Transformer CKT 2 Replacement	TBD
DISIS-2016-001	(NRIS Only) SP-Wolf - Yuma 115kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Sundown 230/115/13.2KV Transformer CKT 2 Build	TBD

Assigned Study	Upgrade Name	Estimated Date of Upgrade Completion (EOC)
DISIS-2016-001	(NRIS Only) Tupelo - Tupelo Tap 138kV CKT 1 Upgrade Terminal Equipment	TBD
DISIS-2016-001	(NRIS Only) Wadsworth 230/69/13kV CKT 2 Build	TBD
DISIS-2016-001	(NRIS Only) Webb City Tap - Fairfax Tap 138kV CKT 1 Rebuild/Re-conductor	TBD
DISIS-2016-001	(NRIS Only) Wichita 345/230/13kV Transformer CKT 1 Replacement	TBD
DISIS-2016-001	(NRIS Only) Wichita 345/230/13kV Transformer CKT 2 Replacement	TBD
DISIS-2016-001	(NRIS Only) Wolfforth Interchange 230/115/13kV Transformer CKT 1 Replacement	TBD

2.4.6 POTENTIAL UPGRADES NOT IN THE BASE CASE

Any potential upgrades that do not have a Notification to Construct (NTC) and are 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.

2.4.7 REGIONAL GROUPINGS

The interconnection requests listed in [Appendix A](#) are grouped into six (6) active regional groups based on geographical and electrical impacts. These groupings are shown in [Appendix C](#).

To determine interconnection impacts, six (6) different generation dispatch scenarios of the spring, summer, and winter base case models are developed to accommodate the regional groupings.

2.5 DEVELOPMENT OF ANALYSIS CASES

2.5.1 POWER FLOW

For Variable Energy Resources (VER) (solar/wind) in each power flow case, Energy Resource Interconnection Service (ERIS), is evaluated for the generating plants within a geographical area of the interconnection request(s) for the VERs dispatched at 100% nameplate of maximum generation. The VERs in the remote areas are dispatched at 20% nameplate of maximum generation. These projects are dispatched across the SPP footprint using load factor ratios.

Peaking units are not dispatched in the spring case, or in the “High VER” summer and winter peak cases. To study peaking units’ impacts, the Year 1 winter peak and Year 2 summer peak, Year 5 summer and winter peaks, and Year 10 summer peak models are developed with peaking units dispatched at 100% of the nameplate rating and VERs dispatched at 20% of the nameplate rating. Each interconnection request is also modeled separately at 100% nameplate for certain analyses.

All generators (VER and peaking) that requested Network Resource Interconnection Service (NRIS) are dispatched in an additional analysis into the interconnecting Transmission Owner’s (T.O.) area at 100% nameplate with Energy Resource Interconnection Service (ERIS) only requests at 80%

nameplate. This method allows for identification of network constraints that are common between regional groupings to have affecting requests share the mitigating upgrade costs throughout the cluster.

2.5.2 DYNAMIC STABILITY

Dynamic stability studies performed as part of the PISIS and DISIS Cluster Studies will provide additional guidance as to whether required reactive compensation can be static or a portion must be dynamic (such as a SVC).

2.5.3 SHORT CIRCUIT

Short circuit analysis is performed as part of the PISIS and DISIS Cluster Studies will provide additional guidance as to whether required reactive compensation can be static or a portion must be dynamic (such as a SVC).

3 IDENTIFICATION OF NETWORK CONSTRAINTS (SYSTEM PERFORMANCE)

3.1 THERMAL OVERLOADS

Network constraints are found by using PSS/E MUST First Contingency Incremental Transfer Capability (FCITC) analysis on the entire cluster grouping dispatched at the various levels previously described.

For Energy Resource Interconnection Service (ERIS), thermal overloads are determined for system intact (n-0) greater than 100% of Rate A - normal and for contingency (n-1) greater than 100% of Rate B - emergency conditions.

The overloads are then screened to determine which interconnection requests have at least

- 3% Distribution Factor (DF) for system intact conditions (n-0),
- 20% DF upon outage-based conditions (n-1),
- or 3% DF on contingent elements that resulted in a non-converged solution.

Appropriate transmission reinforcements are identified to mitigate the constraints.

Interconnection Requests that requested Network Resource Interconnection Service (NRIS) are also studied in a separate NRIS analysis to determine if any constraint measured greater than or equal to a 3% DF. If so, these constraints are also assigned transmission reinforcements to mitigate the impacts.

3.2 VOLTAGE

Steady State Voltage analysis is performed as part of the PISIS and DISIS Cluster Studies will provide additional guidance as to whether required reactive compensation. Monitored facilities and transmission reinforcement criteria for this analysis will be provided during the PISIS and/or DISIS report

3.3 DYNAMIC STABILITY

Dynamic stability studies performed as part of the PISIS and DISIS Cluster Studies will provide additional guidance as to whether required reactive compensation can be static or a portion must be dynamic (such as a SVC). During the PISIS and/or DISIS Stability issues are considered for transmission reinforcement under ERIS. Generators that fail to meet low voltage ride-through requirements (FERC Order #661-A) or SPP's stability criteria for damping or dynamic voltage recovery are assigned upgrades such that these requirements can be met.

3.4 UPGRADES ASSIGNED

Thermal overloads that require transmission support to mitigate are discussed in Section 8 and listed in [Appendix G](#). All of these upgrades are cost assigned in [Appendix E](#) and [Appendix F](#).

Other network constraints not requiring transmission reinforcements are shown in [Appendix H](#). With a defined source and sink in a Transmission Service Request, this list of network constraints can be refined and expanded to account for all Network Upgrade requirements for firm transmission service.

In no way does the list of constraints in [Appendix G](#) identify all potential constraints that guarantee operation for all periods of time. It should be noted that although this study analyzed many of the most probable contingencies, it is not an all-inclusive list and cannot account for every operational situation. Because of this, it is likely that the Customer(s) may be required to reduce their generation output to 0 MW, also known as curtailment, under certain system conditions to allow system operators to maintain the reliability of the transmission network.

4 DETERMINATION OF COST ALLOCATED NETWORK UPGRADES

Cost Allocated Network Upgrades of Variable Energy Resources (VER) (solar/wind) generation interconnection requests are determined using the Year 2 spring model. Cost Allocated Network Upgrades of peaking units are determined using the Year 5 summer peak model. A PSS/E and MUST sensitivity analysis is performed to determine the Distribution Factors (DF), a distribution factor with no contingency that each generation interconnection request has on each new upgrade. The impact each generation interconnection request has on each upgrade project is weighted by the size of each request. Finally, the costs due by each request for a particular project are 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 for a given project for all responsible GI requests:

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

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

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

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

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

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.

4.1 CREDITS/COMPENSATION FOR AMOUNTS ADVANCED FOR NETWORK UPGRADES

Interconnection Customer shall be entitled to either credits or potentially incremental Long Term Congestion Rights (iLTCR), otherwise known as compensation, 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.

5 REQUIRED INTERCONNECTION FACILITIES

The requirement to interconnect the requested 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 are listed in **Table 3**, not including the following costs.

- **Costs Not Included** – Costs on Affected Systems for Associated Electric Cooperative Inc. (AECI), Mid-Continent Independent System Operator (MISO), and Minnkota Power Cooperative, Inc (MPC). Impacts to affected systems will be coordinated with the Affected System operators if the Interconnection Request(s) enter into the Definitive Interconnection System Impact Study (DISIS) Queue. Constraints identified to affected system during this analysis are in [Appendix H-AS](#).
- **Costs Not Included** – Potential upgrades required for AC voltage mitigation or transient stability analysis upgrade mitigations. Impacts to AC voltage and transient stability analysis will be performing during the Preliminary Interconnection System Impact Study (PISIS) or DISIS Queue.

Table 3 Total Cluster Costs per POI Scenario

Scenario Number	Total Estimated Minimum Cost
Scenario #1	\$76,700,000
Scenario #2	\$88,150,000
Scenario #3	\$2,000,000
Scenario #4	\$14,000,000
Scenario #5	\$17,000,000
Scenario #6	\$17,500,000
Scenario #7	\$17,500,000
Scenario #8	\$15,000,000
Scenario #9	\$17,500,000
Scenario #10	\$15,500,000
Scenario #11	\$15,000,000
Scenario #12	\$71,500,000
Scenario #13	\$72,000,000
Scenario #14	\$54,500,000
Scenario #15	\$55,000,000
Scenario #16	\$52,000,000
Scenario #17	\$139,000,000
Scenario #18	\$6,000,000
Scenario #19	\$8,000,000

Interconnection Facilities specific to each interconnection request are listed in [Appendix E](#). A preliminary one-line diagram for each request is listed in [Appendix D](#).

For an explanation of how required Network Upgrades and Interconnection Facilities were determined, refer to the section on “Identification of Network Constraints.”

5.1 FACILITIES ANALYSIS

If requests proceed to the DISIS queue, the interconnecting Transmission Owner for each Interconnection Request will provide its preliminary analysis of required Transmission Owner Interconnection Facilities and the associated Network Upgrades, shown in [Appendix D](#). This analysis will be limited only to the expected facilities to be constructed by the Transmission Owner at the Point of Interconnection.

5.2 ENVIRONMENTAL REVIEW

For Interconnection Requests that result in an interconnection to, or modification to, the transmission facilities of the Western-UGP, a National Environmental Policy Act (NEPA) Environmental Review will be required. The Interconnection Customer will be required to execute an Environmental Review Agreement per Section 8.6.1 of the GIP.

6 AFFECTED SYSTEMS COORDINATION

Impacts to affected systems will be coordinated with the Affected System operators if the Interconnection Request(s) enter into the DISIS Queue.

The following procedures are in place to coordinate with Affected Systems.

- Impacts on Associated Electric Cooperative Inc. (AECI) – For any observed violations of thermal overloads on AECI facilities, AECI has been notified by SPP to evaluate the violations for impacts on its transmission system. AECI has instructed SPP to notify the affected Interconnection Customers after posting of this study to contact AECI for an Affected System Study Agreement to study further impacts on the AECI system.
- Impacts on Mid Continent Independent System Operation (MISO) – Per SPP’s agreement with MISO, MISO will be contacted and provided a list of interconnection requests that proceed to move forward into the Interconnection Facilities Study Queue. MISO will then evaluate the Interconnection Requests for impacts and will be in contact with affected Interconnection Customers. For potential impacts see [Appendix H – Affected System](#).
- Impacts on Minnkota Power Cooperative, Inc (MPC) – MPC will be contacted and provided a list of interconnection requests that proceed to move forward into the Interconnection Facilities Study Queue. MP will then evaluate the Interconnection Requests for impacts. For potential impacts see [Appendix H – Affected System](#).
- Impacts to other affected systems – For any observed violations of thermal overloads or voltage constraints, SPP will contact the owner of the facility for further information.

7 POWER FLOW ANALYSIS

7.1 POWER FLOW ANALYSIS METHODOLOGY

The Direct Current (DC) FCITC function of PSS® MUST 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. Single element and multi-element contingencies are evaluated.

7.2 POWER FLOW ANALYSIS

A power flow analysis is conducted for each Interconnection Customer's facility using modified versions of the Year 1 winter peak season, the Year 2 spring, Year 2 summer peak season, Year 5 summer and winter peak seasons, and Year 10 summer peak seasonal models. The output of the Interconnection Customer's facility is 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 Interconnection Service request (ERIS). Certain requests that are also pursuing Network Resource Interconnection Service (NRIS) have an additional analysis conducted for displacing resources in the interconnecting Transmission Owner's balancing area.

8 POWER FLOW RESULTS

8.1 CLUSTER SCENARIO

The Cluster Scenario considers the Base Case as well as all Interconnection Requests in the DISIS Study Queue and all generating facilities (and with respect to (3) below, any identified Network Upgrades associated with such higher-queued interconnection) that, on the date the DISIS is commenced:

1. are directly connected to the Transmission System;
2. are interconnection to Affected Systems and may have an impact on the Interconnection Request;
3. have a pending higher-queued Interconnection Request to interconnect to the Transmission System; and
4. have no Interconnection Queue Position but have executed a GIA or requested that an unexecuted GIA be filed with FERC.

Constraints and associated mitigations for each Interconnection Request are summarized below. Details are contained in [Appendix G](#). Cost allocation for the Cluster Scenario is found in [Appendix E](#).

8.1.1 CLUSTER GROUP 1 (WOODWARD AREA)

New requests for this study group as well as prior-queued requests are listed in [Appendix C](#).

Several ERIS thermal and voltage constraints were observed for system-intact and single-contingency (N-1) conditions. The table below summarizes constraints and associated mitigations.

GEN-2016-098 was also analyzed in Group 2 due to its close electrical location to other current study Group 2 requests..

POI Scenario 1 Results

Table 4: Scenario 1 Group 1 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	140.9	141.0943	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	Rebuild Cederdale-G16-107-TAP 138kv CKT1
DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.9	103.5725	System Intact	Rebuild DeGrasse-Mooreland 138kv CKT 1
DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	103.1216	WOODWARD EHV - WWP4 138.00 138KV CKT 1	
DOVER SW - OKEENE 138KV CKT 1	145.9	104.3825	System Intact	Rebuild Dover SW-Okeene 138kv CKT 1
DOVER SW - OKEENE 138KV CKT 1	160	112.703	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	141.1778	System Intact	Rebuild G16-107-TAP-Okeene 138kv CKT 1
G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	158.0697	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1'	
G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.1	151.3304	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	Rebuild G16-107-TAP-Okeene 138kv CKT 2
MOORELAND - PIC4 138.00 138KV CKT 1	141.7	137.1925	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	Mitigated with Woodward PSHT Angle at 10 degree
OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	155.9273	DOVER SW - OKEENE 138KV CKT 1	Build Okeene XFMR #2

Table 5: Scenario 1 Group 1 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
CARMEN - EAGLE CHIEF 69KV CKT 1	22.1	113.3552	DOVER SW - OKEENE 138KV CKT 1	Mitigated by ERS Upgrades
CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.6	140.6059	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	140.083	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	
MOORELAND - PIC4 138.00 138KV CKT 1	142	137.5338	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
OKEENE - WATONGA SW 69KV CKT 1	47.8	100.3849	DOVER SW - OKEENE 138KV CKT 1	
OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	142.726	DOVER SW - OKEENE 138KV CKT 1	
WICHITA (WICH TX-12) 345/138/13.8KV TRANSFORMER CKT 1	422.7	101.7801	BENTON - WICHITA 345KV CKT 1	Replace Transformer

POI Scenario 2 Results

Table 6: Scenario 2 Group 1 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
CARMEN - EAGLE CHIEF 69KV CKT 1	19.3	99.9306	System Intact	Resolved with FPL Switch Rebuilds
DGRASSE4 138.00 - MOORELAND 138KV CKT 1	0.13886	142.9	System Intact	Rebuild DeGrasse-Mooreland 138kV CKT 1
DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	146.5379	WOODWARD EHV - WWP4 138.00 138KV CKT 1	
DOVER SW - OKEENE 138KV CKT 1	145.9	111.7349	System Intact	Rebuild Dover SW-Okeene 138kV CKT 1
DOVER SW - OKEENE 138KV CKT 1	160	120.3602	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	149.5168	System Intact	Rebuild G16-107-TAP-Okeene 138kV CKT 1
G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	173.5109	WOODWARD EHV - WWP4 138.00 138KV CKT 1	
WOODWARD - WWP4 138.00 138KV CKT 1	248.8	135.4503	System Intact	Rebuild Woodward-WWP4 138kV CKT 1
WOODWARD EHV - WWP4 138.00 138KV CKT 1	286	117.8323	System Intact	
WOODWARD - WWP4 138.00 138KV CKT 1	299.9	128.5104	FPL SWITCH - MOORELAND 138KV CKT 1	
WOODWARD EHV - WWP4 138.00 138KV CKT 1	286.9	134.3335	FPL SWITCH - MOORELAND 138KV CKT 1	
CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	140.9	141.0943	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	Rebuild Cederdale-G16-107-TAP 138kV CKT1
DOVER SW - OKEENE 138KV CKT 2	160.3	105.8263	DOVER SW - OKEENE 138KV CKT 1	Rebuild Dover-Okeene 138kV CKT 2
FPL SWITCH - MOORELAND 138KV CKT 1	286.8	130.1625	WOODWARD EHV - WWP4 138.00 138KV CKT 1	Rebuild FPL Switch-Mooreland 138kV CKT 1
FPL SWITCH - WOODWARD 138KV CKT 1	152.2	179.5046	WOODWARD EHV - WWP4 138.00 138KV CKT 1	Rebuild FPL Switch-Woodward 138kV CKT 1
G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.2	158.7902	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	Rebuild G16-107-TAP-Okeene 138kV CKT 2.
MOORELAND - PIC4 138.00 138KV CKT 1	141.7	137.1925	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	Mitigated with Woodard PST at 10 degree
OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	161.2215	DOVER SW - OKEENE 138KV CKT 1	Build second transformer

Table 7: Scenario 2 Group 1 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
CARMEN - EAGLE CHIEF 69KV CKT 1	16.6	120.4036	DOVER SW - OKEENE 138KV CKT 1	Previous ERIS Upgrade
CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.6	140.6059	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	116.4992	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
DOVER SW - OKEENE 138KV CKT 1	160.6	106.1743	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
FPL SWITCH - MOORELAND 138KV CKT 1	286.9	116.801	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
FPL SWITCH - WOODWARD 138KV CKT 1	152.7	166.537	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	147.8381	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
MOORELAND - PIC4 138.00 138KV CKT 1	142	137.5338	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
OKEENE - WATONGA SW 69KV CKT 1	47.8	107.7374	DOVER SW - OKEENE 138KV CKT 1	
OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	150.1628	DOVER SW - OKEENE 138KV CKT 1'	
WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	116.9552	FPL SWITCH - MOORELAND 138KV CKT 1	
WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	122.2546	FPL SWITCH - MOORELAND 138KV CKT 1	

8.1.2 CLUSTER GROUP 2 (HITCHLAND AREA)

New requests for this study group as well as prior-queued requests are listed in [Appendix C](#).

POI Scenario 3 Results

Table 8: Scenario 3 Group 2 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
Currently None				

Table 9: Scenario 3 Group 2 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	108.7114	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	DISIS_2016-001 Assigned Upgrade

8.1.3 CLUSTER GROUP 3 (SPEARVILLE AREA)

In addition to the 4,073.0 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied.

8.1.4 CLUSTER GROUP 4 (NORTHWEST KANSAS AREA)

In addition to the 2,206.0 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied.

8.1.5 CLUSTER GROUP 6 (SOUTH TEXAS PANHANDLE/NEW MEXICO AREA)

New requests for this study group as well as prior-queued requests are listed in [Appendix C](#).

Twelve (12) Point of Interconnection Scenarios were analyzed for Group 6. Please note this this DC analysis would not observe potential AC voltage collapse for N-1 outages that could be observed in AC studies.

POI Scenario 4 Results

Table 10: Scenario 4 Group 6 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
Currently None				

Table 11: Scenario 4 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5459	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.0979	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 5 Results

Table 12: Scenario 5 Group 6 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
DEAF SMITH COUNTY INTERCHANGE - G15039_T 230.00 230KV CKT 1	349.3	110.28	P12:345:SPS:J15.1.XRDS.TOLK	Replace terminal equipment
TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	100.4981	System Intact	Build second bus tie
TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	663.8	10.1232	P12:230:SPS:K27.1.PLANTX.TOLK	

Table 13: Scenario 5 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	104.0511	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5438	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.0855	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 6 Results

Table 14: Scenario 6 Group 6 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
DEAF SMITH COUNTY INTERCHANGE - G15039_T 230.00 230KV CKT 1	349.3	110.4816	P12:345:SPS:J15.1.XRDS.TOLK	Replace terminal equipment
TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	100.5075	System Intact	Build second bus tie
TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	663.8	100.2822	P12:230:SPS:K27.1.PLANTX.TOLK	

Table 15: Scenario 6 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	104.0511	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5438	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.0855	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 7 Results

Table 16: Scenario 7 Group 6 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	663.8	100.6348	P12:230:SPS:K27.1.PLANTX.TOLK	Build second bus tie

Table 17: Scenario 7 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	103.9394	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5459	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.0979	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 8 Results

Table 18: Scenario 8 Group 6 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
DEAF SMITH COUNTY INTERCHANGE - G15039_T 230.00 230KV CKT 1	349.3	110.2029	P12:345:SPS:J15.1.XRDS.TOLK	Upgrade terminal equipment

Table 19: Scenario 8 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	104.0447	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5438	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.0855	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 9 Results

Table 20: Scenario 9 Group 6 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	607.5	100.7939	P12:230:SPS:K27.1.PLANTX.TOLK	Build second bus tie

Table 21: Scenario 9 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	103.9394	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5459	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.0979	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 10 Results

Table 22: Scenario 10 Group 6 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
DEAF SMITH COUNTY INTERCHANGE - G15039_T 230.00 230KV CKT 1	349.3	110.4066	P12:345:SPS:J15.1.XRDS.TOLK	Replace terminal equipment

Table 23: Scenario 10 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	104.0447	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5438	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.0855	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 11 Results

Table 24: Scenario 11 Group 6 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation

Table 25: Scenario 11 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5459	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.0979	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 12 Results

Table 26: Scenario 12 Group 6 ERS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.8	148.0403	P12:115:SPS:W51.1.NEWHART. CASTRO	Build new Castro County 345kV including: New 345k Switchyard and associated terminal equipment Loop in DISIS-2016-001 assigned Tolk – Potter County 345kV transmission line Build and install Castro 345/115/13kV Transformer circuit #1 Build and install Castro 345/115/13kV Transformer circuit #2
BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176.2	139.5562	P12:115:SPS:W51.1.NEWHART. CASTRO	
BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	153.7927	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	118.2147	System Intact	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	155.9498	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.1	137.0471	System Intact	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	183.1964	P12:115:SPS:T04.1.DFSMTH.CA STRO	
CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	105.7217	P12:345:SPS:J02.1.TOLK.EDDY	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	108.0818	System Intact	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	151.3915	P12:115:SPS:W51.1.NEWHART.CASTRO	
TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	100.1422	System Intact	Build second bus tie

Table 27: Scenario 12 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	117.3657	P12:115:SPS:W51.1.NEWHART. CASTRO	ERIS upgrade for new Castro County 345kV including: New 345k Switchyard and associated terminal equipment Loop in DISIS-2016-001 assigned Tolk – Potter County 345kV transmission line Build and install Castro 345/115/13kV Transformer circuit #1 Build and install Castro 345/115/13kV Transformer circuit #2 Rebuild BC-Kelly Castro County 115kV
BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	136.6131	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.4	102.22	System Intact	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	138.9395	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	137.2	117.0732	System Intact	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	159.3676	P12:115:SPS:T04.1.DFSMTH.CA STRO	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	133.9832	P12:115:SPS:W51.1.NEWHART. CASTRO	
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	105.6564	P13:115-230:SPS:SUNDOWN.1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5396	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.1249	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 13 Results

Table 28: Scenario 13 Group 6 ERS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.8	147.9887	P12:115:SPS:W51.1.NEWHART. CASTRO	Build new Castro County 345kV including: New 345k Switchyard and associated terminal equipment Loop in DISIS-2016-001 assigned Tolk – Potter County 345kV transmission line Build and install Castro 345/115/13kV Transformer circuit #1 Build and install Castro 345/115/13kV Transformer circuit #2
BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176.2	139.5136	P12:115:SPS:W51.1.NEWHART. CASTRO	
BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	153.7412	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.1	118.3379	System Intact	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	156.0019	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.1	1363.874	System Intact	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	183.1193	P12:115:SPS:T04.1.DFSMTH.CA STRO	
CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	101.6418	P12:345:SPS:J02.1.TOLK.EDDY	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	108.212	System Intact	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	151.4442	P12:115:SPS:W51.1.NEWHART. CASTRO	
TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	100.1517	System Intact	Build second bus tie

Table 29: Scenario 13 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	117.3657	P12:115:SPS:W51.1.NEWHART. CASTRO	ERIS upgrade for new Castro County 345kV including: New 345k Switchyard and associated terminal equipment Loop in DISIS-2016-001 assigned Tolk – Potter County 345kV transmission line Build and install Castro 345/115/13kV Transformer circuit #1 Build and install Castro 345/115/13kV Transformer circuit #2 Rebuild BC-Kelly Castro County 115kV
BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	136.6131	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.4	102.22	System Intact	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	138.9395	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	137.2	117.0732	System Intact	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	159.3676	P12:115:SPS:T04.1.DFSMTH.CA STRO	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	133.9832	P12:115:SPS:W51.1.NEWHART. CASTRO	
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	105.6564	P13:115-230:SPS:SUNDOWN.1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5396	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.1249	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 14 Results

Table 30: Scenario 14 Group 6 ERS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.8	148.0403	P12:115:SPS:W51.1.NEWHART. CASTRO	Build new Castro County 345kV including: New 345k Switchyard and associated terminal equipment Loop in DISIS-2016-001 assigned Tolk – Potter County 345kV transmission line Build and install Castro 345/115/13kV Transformer circuit #1 Build and install Castro 345/115/13kV Transformer circuit #2
BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176.2	139.5562	P12:115:SPS:W51.1.NEWHART. CASTRO	
BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	153.7927	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.1	118.2147	System Intact	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	155.9542	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.1	137.0415	System Intact	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	183.1916	P12:115:SPS:T04.1.DFSMTH.CA STRO	
CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	105.5888	P12:345:SPS:J02.1.TOLK.EDDY	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	108.0867	System Intact	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	151.3959	P12:115:SPS:W51.1.NEWHART. CASTRO	

Table 31: Scenario 14 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	117.3657	P12:115:SPS:W51.1.NEWHART. CASTRO	ERIS upgrade for new Castro County 345kV including: New 345k Switchyard and associated terminal equipment Loop in DISIS-2016-001 assigned Tolc – Potter County 345kV transmission line Build and install Castro 345/115/13kV Transformer circuit #1 Build and install Castro 345/115/13kV Transformer circuit #2 Rebuild BC-Kelly Castro County 115kV
BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	136.6131	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.4	102.2229	System Intact	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	138.9395	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	137.2	117.0667	System Intact	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	159.3647	P12:115:SPS:T04.1.DFSMTH.CA STRO	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	133.9832	P12:115:SPS:W51.1.NEWHART. CASTRO	
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	105.6532	P13:115-230:SPS:SUNDOWN.1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5396	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.1249	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

POI Scenario 15 Results

Table 32: Scenario 15 Group 6 ERS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.8	147.9887	P12:115:SPS:W51.1.NEWHART. CASTRO	Build new Castro County 345kV including: New 345k Switchyard and associated terminal equipment Loop in DISIS-2016-001 assigned Tolk – Potter County 345kV transmission line Build and install Castro 345/115/13kV Transformer circuit #1 Build and install Castro 345/115/13kV Transformer circuit #2
BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176.2	139.5136	P12:115:SPS:W51.1.NEWHART. CASTRO	
BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	153.7412	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.1	118.3379	System Intact	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	156.0019	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.1	136.8684	System Intact	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	183.1145	P12:115:SPS:T04.1.DFSMTH.CA STRO	
CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	105.5277	P12:345:SPS:J02.1.TOLK.EDDY	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	108.212	System Intact	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	151.4442	P12:115:SPS:W51.1.NEWHART. CASTRO	

Table 33: Scenario 15 Group 6 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	117.3657	P12:115:SPS:W51.1.NEWHART. CASTRO	ERIS upgrade for new Castro County 345kV including: New 345k Switchyard and associated terminal equipment Loop in DISIS-2016-001 assigned Tolk – Potter County 345kV transmission line Build and install Castro 345/115/13kV Transformer circuit #1 Build and install Castro 345/115/13kV Transformer circuit #2 Rebuild BC-Kelly Castro County 115kV
BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	136.6131	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.4	102.2229	System Intact	
CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	138.9395	P12:115:SPS:W51.1.NEWHART. CASTRO	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	137.2	117.0667	System Intact	
CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	159.3647	P12:115:SPS:T04.1.DFSMTH.CA STRO	
DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	133.9832	P12:115:SPS:W51.1.NEWHART. CASTRO	
HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	105.6532	P13:115-230:SPS:SUNDOWN.1	DISIS-2016-001 NRIS only upgrades
LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	114.5396	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	103.1249	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1	

8.1.6 CLUSTER GROUP 7 (SOUTHWESTERN OKLAHOMA AREA)

In addition to the 2,687.4 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.

8.1.7 CLUSTER GROUP 8 (NORTH OKLAHOMA/SOUTH CENTRAL KANSAS AREA)

New requests for this study group as well as prior-queued requests are listed in [Appendix C](#).

POI Scenario 16 Results

Table 34: Scenario 16 Group 8 ERIIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
CLEVELAND - TULSA NORTH 345KV CKT 1	1099	100.1459	System Intact	DISIS-2016-001 Assigned Upgrade
G15063_T 345.00 - WOODRING 345KV CKT 1	1192.7	107.9086	NORTHWEST - SPRING CREEK 345KV CKT 1	Rebuild Woodring-G15063-TAP-Matthewson to Tatonga
G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	1530.2	103.0013	NORTHWEST - SPRING CREEK 345KV CKT 1	Rebuild Woodring-G15063-TAP-Matthewson to Tatonga

Table 35: Scenario 16 Group 8 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1	366.1	161.5351	P12:345:AEPW-GRDA:T.NO.-7:CLEVELND7	DISIS-2016-001 Assigned Upgrades
CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1	486.6	102.9412	P12:345:AEPW-GRDA:T.NO.-7:CLEVELND7	

POI Scenario 19 Results

Table 36: Scenario 19 Group 00 ERIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
Currently None				

Table 37: Scenario 19 Group 00 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
Currently None				

8.1.8 CLUSTER GROUP 9 (NEBRASKA AREA)

New requests for this study group as well as prior-queued requests are listed in [Appendix C](#).

POI Scenario 17 Results

Table 38: Scenario 17 Group 9 ERS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.3	218.6627	P12:115:MKEC:CONCORDIA -CLIFTON::	Rebuild Baileyville – Smittyville 115kv CKT 1
BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	215.9471	P12:115:MKEC:CONCORDIA -CLIFTON::	Rebuild Baileyville – Marshall 115kv CKT 1
BEATRICE - HARBINE 115KV CKT 1	98.3	179.9232	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	Rebuild Beatrice - Harbine 115kv CKT 1
CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	146.9	106.9702	P12:115:NPPD:1175B:FAIRB RY7:HARBINE7:BTB	Rebuild Carlton Junction – North Hebron 115kv CKT 1
CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	132.2746	KELLY - TECUMSEH HILL 161KV CKT 1	Rebuild Circleville – King Hill 115kv CKT 1
CLIFTON - CONCORDIA 115KV CKT 1	113.1	155.0742	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	Rebuild Clifton – Concordia 115kv CKT 1
FAIRBURY - G15087_T 115.00 115KV CKT 1	95.9	124.1907	P12:115:NPPD:1175B:FAIRB RY7:HARBINE7:BTB	DISIS-2016-001 Assigned Upgrade
FAIRBURY - HARBINE 115KV CKT 1	96.3	181.2565	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	185.8432	P12:115:NPPD:1175B:FAIRB RY7:HARBINE7:BTB	
KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	134.3951	KELLY - TECUMSEH HILL 161KV CKT 1	Rebuild Kelly – King Hill 115kv CKT 1
KELLY - TECUMSEH HILL 161KV CKT 1	110.2	124.8579	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	Rebuild Kelly – Techumseh Hill 161kv CKT 1
KNOB HILL - MARSHAL3	91.1	185.5126	BAILEYVILLE N.M. STATION	Rebuild Knob Hill – Marshal

115.00 115KV CKT 1			(NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	115kv CKT 1
MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.1	108.6593	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	Rebuild Marshal – Smittyville 115kv CKT 1

Table 39: Scenario 17 Group 9 NRIS Power Flow Analysis

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.3	218.6627	P12:115:MKEC:CONCORDIA-CLIFTON::	Rebuild Baileyville – Smittyville 115kv CKT 1
BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	215.9471	P12:115:MKEC:CONCORDIA-CLIFTON::	Rebuild Baileyville – Marshall 115kv CKT 1
BEATRICE - HARBINE 115KV CKT 1	98.3	179.9232	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	Rebuild Beatrice - Harbine 115kv CKT 1
CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	146.9	106.9702	P12:115:NPPD:1175B:FAIRBRY7 :HARBINE7:BTB	Rebuild Carlton Junction – North Hebron 115kv CKT 1
CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	132.2746	KELLY - TECUMSEH HILL 161KV CKT 1	Rebuild Circleville – King Hill 115kv CKT 1
CLIFTON - CONCORDIA 115KV CKT 1	113.1	155.0742	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	Rebuild Clifton – Concordia 115kv CKT 1
FAIRBURY - G15087_T 115.00 115KV CKT 1	95.9	124.1907	P12:115:NPPD:1175B:FAIRBRY7 :HARBINE7:BTB	DISIS-2016-001 Assigned Upgrade
FAIRBURY - HARBINE 115KV CKT 1	96.3	181.2565	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	185.8432	P12:115:NPPD:1175B:FAIRBRY7 :HARBINE7:BTB	
KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	134.3951	KELLY - TECUMSEH HILL 161KV CKT 1	Rebuild Kelly – King Hill 115kv CKT 1
KELLY - TECUMSEH HILL 161KV CKT 1	110.2	124.8579	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	Rebuild Kelly – Techumseh Hill 161kv CKT 1
KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.1	185.5126	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E.	Rebuild Knob Hill – Marshal 115kv CKT 1

			115KV CKT 1	
MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.1	108.6593	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	Rebuild Marshal – Smittyville 115kV CKT 1
GOODYEAR JUNCTION - NORTHLAND 115KV CKT 1	178.9	103.9635	HOYT - STRANGER CREEK 345KV CKT 1	NRIS Only – Rebuild Goodyear Junction – Northland 115kV CKT 1
GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	120.5526	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1	NRIS Only – Reterminal Grand Prarie – Holt – Grand Island 345kV
GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	123.4843	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1	NRIS Only – Reterminal Grand Prarie – Holt – Grand Island 345kV
HOYT - HOYTJS 3 115.00 115KV CKT 1	178.5	105.4078	HOYT - STRANGER CREEK 345KV CKT 1	NRIS Only – Rebuild Hoyt – Hoyt JS 115kV CKT 1

8.1.9 CLUSTER GROUP 10 (SOUTHEAST OKLAHOMA/NORTHEAST TEXAS AREA)

In addition to the 0.0 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.

8.1.10 CLUSTER GROUP 12 (NORTHWEST ARKANSAS AREA)

In addition to the 30.0 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.

8.1.11 CLUSTER GROUP 13 (NORTHEAST KANSAS/NORTHWEST MISSOURI AREA)

New requests for this study group as well as prior-queued requests are listed in [Appendix C](#).

POI Scenario 18 Results

Table 8.40 Scenario 18 Group 13 Cluster ERIS Constraints

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
Current none				

Table 8.41 Scenario 18 Group 13 Cluster NRIS Constraints

Monitored Element	Limiting Rate A/B (MVA)	TC %Loading (%MVA)	Contingency	Mitigation
Currently none				

8.1.12 CLUSTER GROUP 14 (SOUTH CENTRAL OKLAHOMA AREA)

In addition to the 1,616.0 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied.

8.1.13 CLUSTER GROUP 15 (EASTERN SOUTH DAKOTA)

In addition to approximately 3,954.9 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied.

8.1.14 CLUSTER GROUP 16 (WESTERN NORTH DAKOTA)

In addition to approximately 4,432.31 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied.

8.1.15 CLUSTER GROUP 17 (WESTERN SOUTH DAKOTA)

In addition to approximately 533.9 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied.

8.1.16 CLUSTER GROUP 18 (EASTERN NORTH DAKOTA)

In addition to approximately 261.5 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.

8.2 STAND-ALONE SCENARIO

Not applicable to the FCS queue, however if requests proceed to the DISIS Queue the following Stand-Alone Scenario will be evaluated.

The Stand-Alone Scenario considers the Base Case as well as all generating facilities (and with respect to (3) below, any identified Network Upgrades associated with such higher-queued interconnection) that, on the date the DISIS is commenced:

1. are directly connected to the Transmission System;
2. are interconnection to Affected Systems and may have an impact on the Interconnection Request;
3. have a pending higher-queued Interconnection Request to interconnect to the Transmission System; and
4. have no Interconnection Queue Position but have executed a GIA or requested that an unexecuted GIA be filed with FERC.

8.3 CURTAILMENT AND SYSTEM RELIABILITY

In no way does this study guarantee operation for all periods of time. It should be noted that although this study analyzed many of the most probable contingencies, it is not an all-inclusive list and cannot account for every operational situation. Because of this, it is likely that the Customer(s) may be required to reduce their generation output to 0 MW, also known as curtailment, under

certain system conditions to allow system operators to maintain the reliability of the transmission network.

9 STABILITY & SHORT CIRCUIT ANALYSIS

Not applicable to the FCS queue

10 CONCLUSION

The minimum cost of interconnecting all new generation interconnection requests included in this Definitive Interconnection System Impact Study is listed in **Table 42**, not including the exceptions noted in Section 5.

Table 42 Total Cluster Costs per POI Scenario

Scenario Number	Total Estimated Minimum Cost
Scenario #1	\$76,700,000
Scenario #2	\$88,150,000
Scenario #3	\$2,000,000
Scenario #4	\$14,000,000
Scenario #5	\$17,000,000
Scenario #6	\$17,500,000
Scenario #7	\$17,500,000
Scenario #8	\$15,000,000
Scenario #9	\$17,500,000
Scenario #10	\$15,500,000
Scenario #11	\$15,000,000
Scenario #12	\$71,500,000
Scenario #13	\$72,000,000
Scenario #14	\$54,500,000
Scenario #15	\$55,000,000
Scenario #16	\$52,000,000
Scenario #17	\$139,000,000
Scenario #18	\$6,000,000
Scenario #19	\$8,000,000

Allocated costs for Network Upgrades and Transmission Owner Interconnection Facilities are listed in Appendix E and F. For Interconnection Requests that result in an interconnection to, or modification of, the transmission facilities of the Western-UGP (WAPA), a National Environmental Policy Act (NEPA) Environmental Review will be required. The Interconnection Customer will be required to execute an Environmental Review Agreement per Section 8.6.1 of the GIP.

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 any Network Upgrades that are identified as required through the short circuit analysis. Potential over-duty circuit breakers capability will be identified by the Transmission Owner in the Interconnection Facilities Study.

Further refinement of total estimated interconnection costs will be provided, should the Interconnection Customer meet the requirements for acceptance and choose to move into the Interconnection Facilities Study following the posting of this DISIS. The Interconnection Facilities Study may include additional study analysis, additional facility upgrades not yet identified by this DISIS, such as circuit breaker replacements and affected system facilities, and further refinement of existing cost estimates.

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).

11 APPENDICES

*11.1 A: GENERATION INTERCONNECTION REQUESTS CONSIDERED FOR
IMPACT STUDY*

A: Generation Interconnection Requests Considered for 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*
GEN-2016-089	100.00	ER/NR	SPS	Tap Roosevelt South -Tolk East 230kV/ Tap Roosevelt North - Tolk West	Tap Roosevelt South -Tolk East 230kV/ Tap Roosevelt North - Tolk West	11/30/2018	TBD
GEN-2016-090	100.00	ER/NR	SPS	Pleasant Hill 115 kV	Pleasant Hill 115 kV	11/30/2018	TBD
GEN-2016-093	72.50	ER/NR	NPPD	Stegall 115kV	Stegall 115kV	12/31/2018	TBD
GEN-2016-098	250.00	ER/NR	OKGE	Tap Woodward EHV – Hitchland 345kV DBL CKT (GEN-2016-003)/Woodward District 138kV	Tap Woodward EHV – Hitchland 345kV DBL CKT (GEN-2016-003)/Woodward District 138kV	10/1/2020	TBD
GEN-2016-099	250.00	ER/NR	SPS	Deaf Smith 230kV/Tap Deaf Smith - Plant X 230kV/Castro County 115kV	Deaf Smith 230kV/Tap Deaf Smith - Plant X 230kV/Castro County 115kV	10/1/2020	TBD
GEN-2016-104	400.00	ER/NR	OKGE	Tap Mathewson -Woodring 345kV	Woodring 345kV	12/31/2019	TBD
GEN-2016-107	200.00	ER/NR	WFEC	Tap Cederdale - Okeene 138kV	Tap Cederdale - Okeene 138kV	12/15/2019	TBD
GEN-2016-109	120.00	ER/NR	NPPD	Fairbury 115kV	Fairbury 115kV	12/15/2019	TBD
GEN-2016-117	50.00	ER	SPS	Pleasant Hill 230kV/ Pleasant Hill 115kV	Pleasant Hill 230kV/ Pleasant Hill 115kV	7/1/2019	TBD
GEN-2016-154	540.00	ER	GRDA	Grand River Energy Center 161kV	Grand River Energy Center 161kV		TBD
GEN-2016-156	100.00	ER/NR	SPS	Texas County 115 kV	Texas County 115 kV	12/31/2020	TBD
GEN-2016-170	100.00	ER/NR	WERE	Kelly 115kV/Smittyville 115kV	Kelly 115kV/Smittyville 115kV	12/15/2019	TBD
Total: 2,282.50							

*In-Service Date for each request is to be determined after the Interconnection Facility Study is completed.

11.2 B: PRIOR-QUEUED INTERCONNECTION REQUESTS

B: Prior Queued Interconnection Requests

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
ASGI-2010-006	150.00	AECI	Remington 138kV	AECI queue Affected Study
ASGI-2010-010	42.20	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	27.30	SPS	Lovington 115kV	On-Line
ASGI-2011-002	20.00	SPS	Herring 115kV	On-Line
ASGI-2011-003	10.00	SPS	Hendricks 69kV	On-Line
ASGI-2011-004	20.00	SPS	Pleasant Hill 69kV	Under Study (DISIS-2011-002)
ASGI-2012-002	18.15	SPS	FE-Clovis Interchange 115kV	Under Study (DISIS-2012-002)
ASGI-2012-006	22.50	SUNCMKEC	Tap Hugoton - Rolla 69kV	Under Study (DISIS-2012-001)
ASGI-2013-001	11.50	SPS	PanTex South 115kV	Under Study (DISIS-2013-001)
ASGI-2013-002	18.40	SPS	FE Tucumcari 115kV	Under Study (DISIS-2013-001)
ASGI-2013-003	18.40	SPS	FE Clovis 115kV	Under Study (DISIS-2013-001)
ASGI-2013-004	36.60	SUNCMKEC	Morris 115kV	Under Study (DISIS-2013-002)
ASGI-2013-005	1.65	SPS	FE Clovis 115kV	Under Study (DISIS-2013-002)
ASGI-2013-006	2.00	SPS	SP-Erskine 115kV	
ASGI-2014-001	2.50	SPS	SP-Erskine 115kV	Under Study (DISIS-2014-001)
ASGI-2014-014	56.40	GRDA	Ferguson 69kV	Under Study (DISIS-2014-002)
ASGI-2015-001	6.13	SUNCMKEC	Ninnescah 115kV	Under Study (DISIS-2015-001)
ASGI-2015-002	2.00	SPS	SP-Yuma 69kV	Under Study (DISIS-2015-001)
ASGI-2015-004	56.36	GRDA	Coffeyville City 69kV	Under Study (DISIS-2015-001)
ASGI-2015-006	9.00	SWPA	Tupelo 138kV	Under Study (DISIS-2015-002)
ASGI-2016-001	2.50	SPS	Wolfforth 115kV	DISIS STAGE
ASGI-2016-002	0.35	SPS	Hurlwood 115kV	DISIS STAGE
ASGI-2016-003	6.00	KCPL		DISIS STAGE
ASGI-2016-004	9.60	SPS		DISIS STAGE
ASGI-2016-005	20.00	WAPA	Tap White Lake - Stickeny 69kV	Northwester Queued Request
ASGI-2016-006	20.00	WAPA	Mitchell	Northwester Queued Request
ASGI-2016-007	20.00	WAPA	Kimball 69kV	Northwester Queued Request
G176	100.00	XEL	Yankee 115kV	
G255	100.00	XEL	Yankee 115kV	MISO Queued Request
G380	150.00	OTP	Rugby 115kV	MISO Queued Request
G408	12.00	XEL	Tap McHenry - Souris 115kV	MISO Queued Request
G502	50.60	MP	Milton Young 230kV	MISO Queued Request
G586	30.00	XEL	Yankee 115kV	
G645	50.00	GRE	Ladish 115kV	MISO Queued Request
G723	10.00	MDU	Haskett 115kV	MISO Queued Request
G736	200.00	OTP	Big Stone South 230kV	
G752	150.00	MDU	Tap Bison - Hettinger 230kV	MISO Queued Request
G788	49.00	GRE	Ladish 115kV	MISO Queued Request
G830	99.00	GRE	GRE McHenry 115kV	MISO Queued Request
GEN-2001-014	96.00	WFEC	Ft Supply 138kV	On-Line
GEN-2001-026	74.30	WFEC	Washita 138kV	On-Line
GEN-2001-033	180.00	SPS	San Juan Tap 230kV	On-Line at 120MW
GEN-2001-036	80.00	SPS	Norton 115kV	On-Line
GEN-2001-037	100.00	OKGE	FPL Moreland Tap 138kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2001-039A	105.00	SUNCMKEC	Shooting Star Tap 115kV	On-Line
GEN-2001-039M	100.00	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-2002-008IS	40.50	WAPA	Edgeley 115kV [Pomona 115kV]	Commercial Operation
GEN-2002-009	80.00	SPS	Hansford 115kV	On-Line
GEN-2002-009IS	40.00	WAPA	Ft Thompson 69kV [Hyde 69kV]	Commercial Operation
GEN-2002-022	240.00	SPS	Bushland 230kV	On-Line
GEN-2002-023N	0.80	NPPD	Harmony 115kV	On-Line
GEN-2002-025A	150.00	SUNCMKEC	Spearville 230kV	On-Line
GEN-2003-004	100.00	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
GEN-2003-021N	75.00	NPPD	Ainsworth Wind Tap 115kV	On-Line
GEN-2003-022	120.00	AEPW	Weatherford 138kV	On-Line
GEN-2004-014	154.50	SUNCMKEC	Spearville 230kV	On-Line at 100MW
GEN-2004-020	27.00	AEPW	Weatherford 138kV	On-Line
GEN-2004-023	20.60	WFEC	Washita 138kV	On-Line
GEN-2004-023N	75.00	NPPD	Columbus Co 115kV	On-Line
GEN-2005-003	30.60	WFEC	Washita 138kV	On-Line
GEN-2005-003IS	100.00	WAPA	Nelson 115kV	Commercial Operation
GEN-2005-008	120.00	OKGE	Woodward 138kV	On-Line
GEN-2005-008IS	50.00	WAPA	Hilken 230kV [Ecklund 230kV]	Commercial Operation
GEN-2005-012	250.00	SUNCMKEC	Ironwood 345kV	On-Line at 160MW
GEN-2005-013	201.00	WERE	Caney River 345kV	On-Line
GEN-2006-001IS	10.00	XEL	Marshall 115kV	Commercial Operation
GEN-2006-002	101.00	AEPW	Sweetwater 230kV	On-Line
GEN-2006-002IS	51.00	WAPA	Wessington Springs 230kV	Commercial Operation
GEN-2006-006IS	10.00	XEL	Marshall 115kV	Commercial Operation
GEN-2006-015IS	50.00	WAPA	Hilken 230kV [Ecklund 230kV]	Commercial Operation
GEN-2006-018	170.00	SPS	TUCO Interchange 230kV	On-Line
GEN-2006-020N	42.00	NPPD	Bloomfield 115kV	On-Line
GEN-2006-020S	18.90	SPS	DWS Frisco 115kV	On-Line
GEN-2006-021	101.00	SUNCMKEC	Flat Ridge Tap 138kV	On-Line
GEN-2006-024S	19.80	WFEC	Buffalo Bear Tap 69kV	On-Line
GEN-2006-026	502.00	SPS	Hobbs 230kV & Hobbs 115kV	On-Line
GEN-2006-031	75.00	MIDW	Knoll 115kV	On-Line
GEN-2006-035	225.00	AEPW	Sweetwater 230kV	On-Line at 132MW
GEN-2006-037N1	75.00	NPPD	Broken Bow 115kV	On-Line
GEN-2006-038N005	80.00	NPPD	Broken Bow 115kV	On-Line
GEN-2006-038N019	80.00	NPPD	Petersburg North 115kV	On-Line
GEN-2006-043	99.00	AEPW	Sweetwater 230kV	On-Line
GEN-2006-044	370.00	SPS	Hitchland 345kV	On-Line at 120MW
GEN-2006-044N	40.50	NPPD	North Petersburg 115kV	On-Line
GEN-2006-046	131.00	OKGE	Dewey 138kV	On-Line
GEN-2007-011N08	81.00	NPPD	Bloomfield 115kV	On-Line
GEN-2007-013IS	50.00	WAPA	Wessington Springs 230kV	Commercial Operation

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2007-014IS	100.00	WAPA	Wessington Springs 230kV	Commercial Operation
GEN-2007-015IS	100.00	WAPA	Hilken 230kV [Ecklund 230kV]	Commercial Operation
GEN-2007-017IS	166.00	WAPA	Ft Thompson-Grand Island 345kV	On Schedule
GEN-2007-018IS	234.00	WAPA	Ft Thompson-Grand Island 345kV	On Schedule
GEN-2007-020IS	16.00	WAPA	Nelson 115kV	Commercial Operation
GEN-2007-021	201.00	OKGE	Tatonga 345kV	On-Line
GEN-2007-023IS	50.00	WAPA	Formit-Summit 115kV	On Suspension
GEN-2007-025	300.00	WERE	Viola 345kV	On-Line
GEN-2007-027IS	99.00	WAPA	Bismarck-Garrison 230kV #1	On Suspension
GEN-2007-040	200.00	SUNCMKEC	Buckner 345kV	On-Line at 132MW
GEN-2007-043	200.00	OKGE	Minco 345kV	On-Line
GEN-2007-044	300.00	OKGE	Tatonga 345kV	On-Line at 199MW
GEN-2007-046	200.00	SPS	Hitchland 115kV	On-Line
GEN-2007-050	170.00	OKGE	Woodward EHV 138kV	On-Line at 150MW
GEN-2007-052	150.00	WFEC	Anadarko 138kV	On-Line
GEN-2007-062	425.00	OKGE	Woodward EHV 345kV	On-Line for 225MW, On Schedule and 2017
GEN-2008-003	101.00	OKGE	Woodward EHV 138kV	On-Line
GEN-2008-008IS	5.00	WAPA	Nelson 115kV	Commercial Operation
GEN-2008-013	300.00	OKGE	Hunter 345kV	On-Line at 235MW
GEN-2008-018	250.00	SPS	Finney 345kV	On-Line
GEN-2008-021	42.00	WERE	Wolf Creek 345kV	On-Line
GEN-2008-022	300.00	SPS	Crossroads 345kV	On-Line
GEN-2008-023	150.00	AEPW	Hobart Junction 138kV	On-Line
GEN-2008-037	101.00	WFEC	Slick Hills 138kV	On-Line
GEN-2008-044	197.80	OKGE	Tatonga 345kV	On-Line
GEN-2008-047	300.00	OKGE	Beaver County 345kV	On-Line
GEN-2008-051	322.00	SPS	Potter County 345kV	On-Line at 161MW
GEN-2008-079	99.20	SUNCMKEC	Crooked Creek 115kV	On-Line
GEN-2008-086N02	201.00	NPPD	Meadow Grove 230kV	On-Line
GEN-2008-092	200.60	MIDW	Post Rock 230kV	On-Line
GEN-2008-098	100.80	WERE	Waverly 345kV	On-Line
GEN-2008-1190	60.00	OPPD	S1399 161kV	On-Line
GEN-2008-123N	89.70	NPPD	Tap Pauline - Hildreth (Rosemont) 115kV	On Schedule for 2016
GEN-2008-124	200.10	SUNCMKEC	Ironwood 345kV	On Schedule for 2016
GEN-2008-129	80.00	KCPL	Pleasant Hill 161kV	On-Line
GEN-2009-001IS	200.00	WAPA	Groton-Watertown 345kV	On Schedule
GEN-2009-006IS	90.00	WAPA	Mission 115kV	On Suspension
GEN-2009-007IS	100.00	WAPA	Mission 115kV	On Suspension
GEN-2009-008	199.50	MIDW	South Hays 230kV	On-Line
GEN-2009-018IS	100.00	WAPA	Groton 115kV	Commercial Operation
GEN-2009-020	48.30	MIDW	Walnut Creek 69kV	On-Line
GEN-2009-020AIS	130.50	WAPA	Tripp Junction 115kV	Commercial Operation
GEN-2009-025	59.80	OKGE	Nardins 69kV	On-Line
GEN-2009-026IS	110.00	WAPA	Dickenson-Heskett 230kV	On Schedule
GEN-2009-040	73.80	WERE	Marshall 115kV	On-Line
GEN-2010-001	300.00	OKGE	Beaver County 345kV	On-Line
GEN-2010-001IS	99.00	WAPA	Bismarck-Glenham 230kV	On Schedule
GEN-2010-003	100.80	WERE	Waverly 345kV	On-Line
GEN-2010-003IS	34.00	WAPA	Wessington Springs 230kV	Commercial Operation

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2010-005	299.20	WERE	Viola 345kV	On-Line at 170MW
GEN-2010-006	205.00	SPS	Jones 230kV	On-Line
GEN-2010-007IS	172.50	WAPA	Antelope Valley 345kV	On Suspension
GEN-2010-009	165.60	SUNCMKEC	Buckner 345kV	On-Line
GEN-2010-011	29.70	OKGE	Tatonga 345kV	On-Line
GEN-2010-014	358.80	SPS	Hitchland 345kV	On Schedule for 2018
GEN-2010-036	4.60	WERE	6th Street 115kV	On-Line
GEN-2010-040	300.00	OKGE	Cimarron 345kV	On-Line
GEN-2010-041	10.50	OPPD	S1399 161kV	On Schedule for 2015
GEN-2010-045	197.80	SUNCMKEC	Buckner 345kV	On Suspension
GEN-2010-046	56.00	SPS	TUCO Interchange 230kV	On Schedule for 2016
GEN-2010-048	70.00	MIDW	Tap Beach Station - Redline 115kV	FACILITY STUDY STAGE
GEN-2010-051	200.00	NPPD	Tap Hoskins - Twin Church (Dixon County) 230kV	On Suspension
GEN-2010-055	4.50	AEPW	Wekiwa 138kV	On-Line
GEN-2010-057	201.00	MIDW	Rice County 230kV	On-Line
GEN-2011-008	600.00	SUNCMKEC	Clark County 345kV	On-Line
GEN-2011-010	100.80	OKGE	Minco 345kV	On-Line
GEN-2011-011	50.00	KCPL	Iatan 345kV	On-Line
GEN-2011-014	201.00	OKGE	Tap Hitchland - Woodward Dbl Ckt (GEN-2011-014 Tap) 345kV	On-Line
GEN-2011-016	200.10	SUNCMKEC	Ironwood 345kV	On Suspension
GEN-2011-018	73.60	NPPD	Steele City 115kV	On-Line
GEN-2011-019	175.00	OKGE	Woodward 345kV	On Schedule for 2017
GEN-2011-020	175.00	OKGE	Woodward 345kV	On Schedule for 2017
GEN-2011-022	299.00	SPS	Hitchland 345kV	On Schedule for 2016 (150MW) and 2017 (149MW)
GEN-2011-025	80.00	SPS	Tap Floyd County - Crosby County 115kV	On Schedule for 2016
GEN-2011-027	120.00	NPPD	Tap Hoskins - Twin Church (Dixon County) 230kV	On Schedule for 2018
GEN-2011-037	7.00	WFEC	Blue Canyon 5 138kV	On-Line
GEN-2011-040	111.00	OKGE	Carter County 138kV	On-Line
GEN-2011-045	205.00	SPS	Jones 230kV	On-Line
GEN-2011-046	27.00	SPS	Lopez 115kV	On-Line
GEN-2011-048	175.00	SPS	Mustang 230kV	On-Line
GEN-2011-049	250.70	OKGE	Border 345kV	On Schedule for 2016
GEN-2011-050	109.80	AEPW	Santa Fe Tap 138kV	On-Line
GEN-2011-054	300.00	OKGE	Cimarron 345kV	On-Line
GEN-2011-056	3.60	NPPD	Jeffrey 115kV	On-Line
GEN-2011-056A	3.60	NPPD	John 1 115kV	On-Line
GEN-2011-056B	4.50	NPPD	John 2 115kV	On-Line
GEN-2011-057	150.40	WERE	Creswell 138kV	On-Line
GEN-2012-001	61.20	SPS	Cirrus Tap 230kV	On-Line
GEN-2012-004	41.40	OKGE	Carter County 138kV	On-Line
GEN-2012-006IS	125.01	WAPA	Williston-Ch. Creek 230kV	On Schedule
GEN-2012-007	120.00	SUNCMKEC	Rubart 115kV	On-Line
GEN-2012-009IS	99.00	WAPA	Fort Randall 115kV	On Suspension
GEN-2012-012IS	75.00	WAPA	Wolf Point-Circle 115kV	On Suspension
GEN-2012-014IS	99.50	WAPA	Groton 115kV	On Schedule
GEN-2012-020	478.00	SPS	TUCO 230kV	On Schedule for 2016
GEN-2012-021	4.80	LES	Terry Bundy Generating Station 115kV	On-Line
GEN-2012-024	180.00	SUNCMKEC	Clark County 345kV	On Schedule for 2016

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2012-028	74.80	WFEC	Gotebo 69kV	On-Line
GEN-2012-032	300.00	OKGE	Open Sky 345kV	On-Line
GEN-2012-033	98.10	OKGE	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV	On-Line
GEN-2012-034	7.00	SPS	Mustang 230kV	On-Line
GEN-2012-035	7.00	SPS	Mustang 230kV	On-Line
GEN-2012-036	7.00	SPS	Mustang 230kV	On-Line
GEN-2012-037	203.00	SPS	TUCO 345kV	On-Line
GEN-2012-041	121.50	OKGE	Ranch Road 345kV	On-Line
GEN-2013-001IS	90.00	WAPA	Summit-Watertown 115kV	On Suspension
GEN-2013-002	50.60	LES	Tap Sheldon - Folsom & Pleasant Hill (GEN-2013-002 Tap) 115kV CKT 2	On Suspension
GEN-2013-007	100.30	OKGE	Tap Prices Falls - Carter 138kV	On-Line
GEN-2013-008	1.20	NPPD	Steele City 115kV	On-Line
GEN-2013-009IS	19.50	WAPA	Redfield NW 115kV	Commercial Operation
GEN-2013-010	99.00	SUNCMKEC	Tap Spearville - Post Rock (North of GEN-2011-017 Tap) 345kV	On Suspension
GEN-2013-011	30.00	AEPW	Turk 138kV	On-Line
GEN-2013-012	147.00	OKGE	Redbud 345kV	On-Line
GEN-2013-016	203.00	SPS	TUCO 345kV	On Schedule for 2017
GEN-2013-019	73.60	LES	Tap Sheldon - Folsom & Pleasant Hill (GEN-2013-002 Tap) 115kV CKT 2	On Suspension
GEN-2013-022	25.00	SPS	Norton 115kV	On-Line
GEN-2013-027	150.00	SPS	Tap Tolk - Yoakum 230kV	On Schedule for 2018
GEN-2013-028	559.50	GRDA	Tap N Tulsa - GRDA 1 345kV	On Schedule for 2017
GEN-2013-029	300.00	OKGE	Renfrow 345kV	On-Line for 151.6MW
GEN-2013-030	300.00	OKGE	Beaver County 345kV	On Schedule for 2016 (200MW) and 2017 (100MW)
GEN-2013-032	204.00	NPPD	Antelope 115kV	On Schedule for 2017
GEN-2013-033	28.00	MIDW	Knoll 115kV	On-Line
GEN-2014-001	200.60	WERE	Tap Wichita - Emporia Energy Center (GEN-2014-001 Tap) 345kV	On Suspension
GEN-2014-001IS	103.70	WAPA	Newell-Maurine 115kV	On Suspension
GEN-2014-002	10.50	OKGE	Tatonga 345kV (GEN-2007-021 POI)	On Schedule for 2015
GEN-2014-003	15.80	OKGE	Tatonga 345kV (GEN-2007-044 POI)	On Schedule for 2015
GEN-2014-003IS	91.00	WAPA	Culbertson 115kV	On Schedule
GEN-2014-004	4.00	NPPD	Steele City 115kV (GEN-2011-018 POI)	On-Line
GEN-2014-004IS	384.20	WAPA	Charlie Creek 345kV	IA Pending
GEN-2014-005	5.70	OKGE	Minco 345kV (GEN-2011-010 POI)	On-Line
GEN-2014-006IS	125.00	WAPA	Williston 115kV	On Schedule
GEN-2014-010IS	150.00	WAPA	Neset 115kV	On Schedule
GEN-2014-012	225.00	SPS	Tap Hobbs Interchange - Andrews 230kV	On Suspension
GEN-2014-013	73.50	NPPD	Meadow Grove (GEN-2008-086N2 Sub) 230kV	On-Line
GEN-2014-014IS	151.50	WAPA	Belfield-Rhame 230kV	On Schedule
GEN-2014-020	100.00	AEPW	Tuttle 138kV	On Schedule for 2017
GEN-2014-021	300.00	KCPL	Tap Nebraska City - Mullin Creek 345kV	On Schedule for 2016
GEN-2014-025	2.40	MIDW	Walnut Creek 69kV	On-Line
GEN-2014-028	35.00	EMDE	Riverton 161kV	On-Line
GEN-2014-031	35.80	NPPD	Meadow Grove 230kV	On-Line
GEN-2014-032	10.20	NPPD	Meadow Grove 230kV	On Schedule for 2016
GEN-2014-033	70.00	SPS	Chaves County 115kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2014-034	70.00	SPS	Chaves County 115kV	On-Line
GEN-2014-035	30.00	SPS	Chaves County 115kV	On Schedule for 2018
GEN-2014-037	200.00	SPS	Tap Hitchland - Beaver County Dbl Ckt (Optima) 345kV	FACILITY STUDY STAGE
GEN-2014-039	73.40	NPPD	Friend 115kV	On Schedule for 2017
GEN-2014-040	320.40	SPS	Castro 115kV	On-Line
GEN-2014-041	120.80	SUNCMKEC	Arnold 115kV	On Suspension
GEN-2014-047	40.00	SPS	Crossroads 345kV	On Schedule for 2017
GEN-2014-056	250.00	OKGE	Minco 345kV	On Schedule for 2016
GEN-2014-057	250.00	AEPW	Tap Lawton - Sunnyside (Terry Road) 345kV	On-Line
GEN-2014-064	248.40	OKGE	Otter 138kV	On Suspension
GEN-2014-074	152.00	SPS	Tap TUCO Interchange - Oklaunion (GEN-2014-074 Tap) 345kV	FACILITY STUDY STAGE
GEN-2015-001	200.00	OKGE	Ranch Road 345kV	On-Line
GEN-2015-004	52.90	OKGE	Border 345kV	On Schedule for 2017
GEN-2015-005	200.10	KCPL	Tap Nebraska City - Sibley 345kV	On-Line
GEN-2015-007	160.00	NPPD	Hoskins 345kV	FACILITY STUDY STAGE
GEN-2015-013	120.00	WFEC	Synder 138kV	FACILITY STUDY STAGE
GEN-2015-014	150.00	SPS	Tap Cochran - Lehman 115kV	FACILITY STUDY STAGE
GEN-2015-015	154.60	OKGE	Tap Medford Tap - Coyote 138kV	FACILITY STUDY STAGE
GEN-2015-016	200.00	KCPL	Tap Marmaton - Centerville 161kV	FACILITY STUDY STAGE
GEN-2015-018	80.00	SPS	Tap Curry County - Bailey 115kV	DISIS STAGE
GEN-2015-020	100.00	SPS	Oasis 115kV	FACILITY STUDY STAGE
GEN-2015-021	20.00	SUNCMKEC	Johnson Corner 115kV	FACILITY STUDY STAGE
GEN-2015-022	112.00	SPS	Swisher 115kV	FACILITY STUDY STAGE
GEN-2015-023	300.70	NPPD	Holt County 345kV	FACILITY STUDY STAGE
GEN-2015-024	220.00	WERE	Tap Thistle - Wichita 345kV Dbl CKT	On-Line
GEN-2015-025	220.00	WERE	Tap Thistle - Wichita 345kV Dbl CKT	On-Line
GEN-2015-027	4.90	SUNCMKEC	Crooked Creek 115kV	FACILITY STUDY STAGE
GEN-2015-029	161.00	OKGE	Tatonga 345kV	On Suspension
GEN-2015-030	200.10	OKGE	Sooner 345kV	On Suspension
GEN-2015-031	150.50	SPS	Tap Amarillo South - Swisher 230kV	FACILITY STUDY STAGE
GEN-2015-033	152.00	SPS	Tap TUCO Interchange - Oklaunion (GEN-2014-074 Tap) 345kV	DISIS STAGE
GEN-2015-034	200.00	OKGE	Ranch Road 345kV	FACILITY STUDY STAGE
GEN-2015-036	303.60	OKGE	Johnston County 345kV	DISIS STAGE
GEN-2015-038	303.60	OKGE	Cimarron 345kV	DISIS STAGE
GEN-2015-039	50.00	SPS	Tap Deaf Smith - Plant X 230kV	DISIS STAGE
GEN-2015-040	50.10	SPS	Mustang 230kV	DISIS STAGE
GEN-2015-041	5.00	SPS	TUCO Interchange 345kV	DISIS STAGE
GEN-2015-045	20.00	AEPW	Tap Lawton - Sunnyside (Terry Road) 345kV	FACILITY STUDY STAGE
GEN-2015-046	300.00	WAPA	Tande 345kV	FACILITY STUDY STAGE
GEN-2015-047	300.00	OKGE	Sooner 345kV	FACILITY STUDY STAGE
GEN-2015-048	200.00	OKGE	Cleo Corner 138kV	FACILITY STUDY STAGE
GEN-2015-052	300.00	WERE	Tap Open Sky - Rose Hill 345kV	FACILITY STUDY STAGE
GEN-2015-053	50.00	NPPD	Antelope 115kV	FACILITY STUDY STAGE
GEN-2015-055	40.00	WFEC	Erick 138kV	FACILITY STUDY STAGE
GEN-2015-056	101.20	SPS	Crossroads 345kV	FACILITY STUDY STAGE
GEN-2015-057	100.00	OKGE	Minco 345kV	FACILITY STUDY STAGE
GEN-2015-058	50.00	SPS	Atoka 115kV	FACILITY STUDY STAGE
GEN-2015-059	6.30	OKGE	Minco 345kV	DISIS STAGE

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2015-060	250.50	OKGE	Woodward EHV 138kV	FACILITY STUDY STAGE
GEN-2015-061	200.00	SUNCMKEC	Mingo 345kV	FACILITY STUDY STAGE
GEN-2015-062	4.50	OKGE	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV	FACILITY STUDY STAGE
GEN-2015-063	300.00	OKGE	Tap Woodring - Mathewson 345kV	FACILITY STUDY STAGE
GEN-2015-064	197.80	SUNCMKEC	Mingo 115kV	FACILITY STUDY STAGE
GEN-2015-065	202.40	SUNCMKEC	Mingo 345kV	FACILITY STUDY STAGE
GEN-2015-066	248.40	OKGE	Tap Cleveland - Sooner 345kV	FACILITY STUDY STAGE
GEN-2015-067	150.00	OKGE	Sooner 138kV	FACILITY STUDY STAGE
GEN-2015-068	300.00	SPS	TUCO Interchange 345kV	FACILITY STUDY STAGE
GEN-2015-069	300.00	WERE	Union Ridge 230kV	FACILITY STUDY STAGE
GEN-2015-071	200.00	AEPW	Chisholm 345kV	FACILITY STUDY STAGE
GEN-2015-073	200.10	WERE	Emporia Energy Center 345kV	FACILITY STUDY STAGE
GEN-2015-075	51.50	SPS	Carlisle 69kV	FACILITY STUDY STAGE
GEN-2015-076	158.40	NPPD	Belden 115kV	FACILITY STUDY STAGE
GEN-2015-078	50.10	SPS	Mustang 115kV	DISIS STAGE
GEN-2015-079	129.20	SPS	Tap Yoakum - Hobbs Interchange 230kV	FACILITY STUDY STAGE
GEN-2015-080	129.20	SPS	Tap Yoakum - Hobbs Interchange 230kV	FACILITY STUDY STAGE
GEN-2015-081	180.00	OKGE	Tap Woodward - Tatonga (GEN-2011-051 Tap) 345kV	FACILITY STUDY STAGE
GEN-2015-082	200.00	OKGE	Tap Hitchland - Woodward Dbl Ckt (GEN-2011-014 Tap) 345kV	DISIS STAGE
GEN-2015-083	125.00	WERE	Belle Plain 138kV	FACILITY STUDY STAGE
GEN-2015-084	51.30	AEPW	Hollis 138kV	FACILITY STUDY STAGE
GEN-2015-085	122.40	AEPW	Altus Junction 138kV	FACILITY STUDY STAGE
GEN-2015-087	66.00	NPPD	Tap Fairbury - Hebron 115kV	FACILITY STUDY STAGE
GEN-2015-088	300.00	NPPD	Tap Moore - Pauline 345kV	FACILITY STUDY STAGE
GEN-2015-089	200.00	WAPA	Utica 230kV	DISIS STAGE
GEN-2015-090	220.00	WERE	Tap Thistle - Wichita 345kV Dbl CKT	FACILITY STUDY STAGE
GEN-2015-091	101.20	WAPA	Daglum 230kV	FACILITY STUDY STAGE
GEN-2015-092	250.00	AEPW	Tap Lawton - Sunnyside (Terry Road) 345kV	FACILITY STUDY STAGE
GEN-2015-093	250.00	OKGE	Gracemont 345kV	FACILITY STUDY STAGE
GEN-2015-095	176.00	WFEC	Tap Rose Valley - Mooreland 138kV	DISIS STAGE
GEN-2015-096	150.00	WAPA	Tap Belfied - Rhame 230kV	On-Line
GEN-2015-097	100.00	WAPA	Groton 115kV	DISIS STAGE
GEN-2015-098	100.00	WAPA	Mingusville 230kV	FACILITY STUDY STAGE
GEN-2016-001	300.30	OKGE	Tap Badger - Woodward 345kV	DISIS STAGE
GEN-2016-002	74.00	SPS	Happy Interchange 115kV	DISIS STAGE
GEN-2016-003	248.40	OKGE	Tap Badger - Woodward 345kV	DISIS STAGE
GEN-2016-004	202.00	WAPA	Leland Olds 230kV	DISIS STAGE
GEN-2016-005	150.00	SUNCMKEC	Tap Clark County - Thistle 345kV	DISIS STAGE
GEN-2016-007	100.00	WAPA	Valley City 115kV	DISIS STAGE
GEN-2016-008	40.00	WFEC	Granite 69kV	DISIS STAGE
GEN-2016-009	29.00	OKGE	Osage 69kV	DISIS STAGE
GEN-2016-012	200.00	WERE	Tap Wolf Creek - LaCygne 345kV	DISIS STAGE
GEN-2016-013	10.00	EMDE	La Russell 161kV	DISIS STAGE
GEN-2016-014	10.00	EMDE	La Russell 161kV	DISIS STAGE
GEN-2016-015	100.00	SPS	Andrews 230kV	DISIS STAGE
GEN-2016-016	78.20	MIDW	North Kinsley 115kV	DISIS STAGE
GEN-2016-017	250.70	WAPA	Tap Fort Thompson - Leland Olds 345kV	DISIS STAGE
GEN-2016-020	150.00	WFEC	Mooreland 138kV	DISIS STAGE

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2016-021	300.00	NPPD	Hoskins 345kV	DISIS STAGE
GEN-2016-022	151.80	OKGE	Ranch Road 345kV	DISIS STAGE
GEN-2016-023	150.50	WAPA	Tap Laramie River – Sidney 345kV	DISIS STAGE
GEN-2016-024	50.00	WERE	Midian 138kV	DISIS STAGE
GEN-2016-028	100.00	AEPW	Clayton 138kV	DISIS STAGE
GEN-2016-029	150.50	WAPA	Tap Laramie River – Sidney 345kV	DISIS STAGE
GEN-2016-030	100.00	OKGE	Brown 138kV	DISIS STAGE
GEN-2016-031	1.50	OKGE	Ranch Road 345kV	DISIS STAGE
GEN-2016-032	200.00	OKGE	Tap Marshall - Cottonwood Creek 138kV	DISIS STAGE
GEN-2016-034	90.00	WAPA	Tap Laramie River – Sidney 345kV	DISIS STAGE
GEN-2016-037	300.00	AEPW	Tap Chisholm - Gracemont 345kV	DISIS STAGE
GEN-2016-038	300.00	SPS	Harrington 230kV	DISIS STAGE
GEN-2016-039	112.00	SPS	Swisher 115kV	DISIS STAGE
GEN-2016-040	18.40	KCPL	Tap Nebraska City – Sibley 345kV	DISIS STAGE
GEN-2016-041	100.00	SPS	Hitchland 345kV	DISIS STAGE
GEN-2016-042	20.90	AEPW	Tap Lawton - Sunnyside 345kV	DISIS STAGE
GEN-2016-043	230.00	NPPD	Hoskins 345kV	DISIS STAGE
GEN-2016-044	400.00	WAPA	Tap Groton - Leland Olds 345kV	DISIS STAGE
GEN-2016-045	500.00	OKGE	Mathewson 345kV	DISIS STAGE
GEN-2016-046	299.00	SUCMKEC	Tap Clark County - Ironwood 345kV	DISIS STAGE
GEN-2016-047	24.00	OKGE	Mustang 69kV	DISIS STAGE
GEN-2016-048	74.00	OKGE	Sooner 138kV	DISIS STAGE
GEN-2016-049	310.00	SUCMKEC	Tap Spearville - Post Rock 345kV	DISIS STAGE
GEN-2016-050	250.70	NPPD	Tap Axtell - Post Rock 345kV	DISIS STAGE
GEN-2016-051	9.80	AEPW	Tap Clinton Junction - Weatherford Southeast 138kV	DISIS STAGE
GEN-2016-052	3.30	WAPA	Hilken 230kV	DISIS STAGE
GEN-2016-053	3.30	WAPA	Hilken 230kV	DISIS STAGE
GEN-2016-054	3.40	WAPA	Wessington Springs 230kV	DISIS STAGE
GEN-2016-055	126.50	NPPD	Tap Pauline - Hildreth (Rosemont) 115kV	DISIS STAGE
GEN-2016-056	200.00	SPS	Carlisle 230kV	DISIS STAGE
GEN-2016-057	500.00	OKGE	Mathewson 345kV	DISIS STAGE
GEN-2016-058	200.00	SPS	Yoakum 345kV	DISIS STAGE
GEN-2016-059	300.00	SPS	Harrington 230kV	DISIS STAGE
GEN-2016-060	25.00	WERE	Belle Plain 138kV	DISIS STAGE
GEN-2016-061	250.70	OKGE	Tap Woodring - Sooner 345kV	DISIS STAGE
GEN-2016-062	250.70	SPS	Andrews 230kV	DISIS STAGE
GEN-2016-063	200.00	OKGE	Tap Sunnyside – Hugo 345kV	DISIS STAGE
GEN-2016-064	116.00	NPPD	Tap Pauline - Hildreth (Rosemont) 115kV	DISIS STAGE
GEN-2016-065	6.80	WAPA	Tap Belfield - Rhame (Daglum) 230kV	DISIS STAGE
GEN-2016-066	13.00	WAPA	Tap Belfield - Rhame (Daglum) 230kV	DISIS STAGE
GEN-2016-067	73.60	SUCMKEC	Mingo 345kV	DISIS STAGE
GEN-2016-068	250.00	OKGE	Woodring 345kV	DISIS STAGE
GEN-2016-069	31.35	SPS	Chaves County 115kV	DISIS STAGE
GEN-2016-070	5.30	SPS	Martin 115kV	DISIS STAGE
GEN-2016-071	200.10	OKGE	Chilocco 138kV	DISIS STAGE
GEN-2016-072	300.00	OKGE	Tap Hunter - Renfrow 345kV	DISIS STAGE
GEN-2016-073	220.00	WERE	Tap Thistle – Wichita 345kV Dbl CKT	DISIS STAGE
GEN-2016-075	50.00	WAPA	Tap Fort Thompson - Grand Island 345kV	DISIS STAGE
Gray County Wind (Montezuma)	110.00	SUNCMKEC	Gray County Tap 115kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
H081	200.00	XEL	Tap Brookings - Lyons County 345kV	Under Study DPP-2016-FEB-West
J003	20.00	MDU	Baker 115kV	MISO Queued Request
J249	180.00	MDU	MDU Tatanka 230kV	MISO Queued Request
J262	100.00	OTP	Jamestown 345	MISO Queued Request
J263	100.00	OTP	Jamestown 345	MISO Queued Request
J290	150.00	XEL	Tap Glenboro South - Rugby 230kV	MISO Queued Request
J316	150.00	MDU	MDU 230 kV Tatanka-Ellendale line	MISO Queued Request
J432	98.00	XEL	Brookings 345kV	Under Study DPP-2016-FEB-West
J436	150.00	OTP	Big Stone South 345kV	MISO Queued Request
J437	150.00	OTP	Big Stone South 345kV	MISO Queued Request
J442	200.00	OTP	Big Stone 230 kV	MISO Queued Request
J460	200.00	XEL	Tap Brookings - Lyons County 345kV	Under Study DPP-2016-FEB-West
J488	151.80	OTP	Tap Big Stone - Ellendale 345kV	Under Study DPP-2016-FEB-West
J489	151.80	OTP	Tap Big Stone - Ellendale 345kV	Under Study DPP-2016-FEB-West
J490	60.00	MDU	McIntosh 115kV	Under Study DPP-2016-FEB-West
J493	150.00	OTP	Burr 115kV	Under Study DPP-2016-FEB-West
J510	326.90	OTP	Tap Brookings - Big Stone 345kV	Under Study DPP-2016-FEB-West
J525	50.00	XEL	Lake Wilson 69kV	Under Study DPP-2016-FEB-West
J526	300.00	OTP	Tap Brookings - Big Stone 345kV	Under Study DPP-2016-FEB-West
Llano Estacado (White Deer)	80.00	SPS	Llano Wind 115kV	On-Line
MPC01200	98.90	OTP	Maple River 230kV	IA Pending
MPC02100	100.00	OTP	Tap Center - Mandan 230kV	On-Line
NPPD Distributed (Broken Bow)	8.30	NPPD	Broken Bow 115kV	On-Line
NPPD Distributed (Buffalo County Solar)	10.00	NPPD	Kearney Northeast	On-Line
NPPD Distributed (Burt County Wind)	12.00	NPPD	Tekamah & Oakland 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)	11.90	NPPD	Ord 115kV	On-Line
NPPD Distributed (Stuart)	2.10	NPPD	Ainsworth 115kV	On-Line
SPS Distributed (Carson)	10.00	SPS	Martin 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	S_Jal 115kV	On-Line
SPS Distributed (Sherman)	20.00	SPS	Sherman 115kV	On-Line
SPS Distributed (Spearman)	10.00	SPS	Spearman 69kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
SPS Distributed (TC-Texas County)	20.00	SPS	Texas County 115kV	On-Line
SPS Distributed (Yuma)	2.57	SPS	SP-Yuma 69kV	On-Line
Total:	53,722.4			

11.3 C: STUDY GROUPINGS

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	100.00	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	425.00	OKGE	Woodward EHV 345kV
GEN-2008-003	101.00	OKGE	Woodward EHV 138kV
GEN-2008-044	197.80	OKGE	Tatonga 345kV
GEN-2010-011	29.70	OKGE	Tatonga 345kV
GEN-2010-040	300.00	OKGE	Cimarron 345kV
GEN-2011-010	100.80	OKGE	Minco 345kV
GEN-2011-019	175.00	OKGE	Woodward 345kV
GEN-2011-020	175.00	OKGE	Woodward 345kV
GEN-2011-054	300.00	OKGE	Cimarron 345kV
GEN-2014-002	10.50	OKGE	Tatonga 345kV (GEN-2007-021 POI)
GEN-2014-003	15.80	OKGE	Tatonga 345kV (GEN-2007-044 POI)
GEN-2014-005	5.70	OKGE	Minco 345kV (GEN-2011-010 POI)
GEN-2014-020	100.00	AEPW	Tuttle 138kV
GEN-2014-056	250.00	OKGE	Minco 345kV
GEN-2015-029	161.00	OKGE	Tatonga 345kV
GEN-2015-038	303.60	OKGE	Cimarron 345kV
GEN-2015-048	200.00	OKGE	Cleo Corner 138kV
GEN-2015-057	100.00	OKGE	Minco 345kV
GEN-2015-059	6.30	OKGE	Minco 345kV
GEN-2015-060	250.50	OKGE	Woodward EHV 138kV
GEN-2015-081	180.00	OKGE	Tap Woodward - Tatonga (GEN-2011-051 Tap) 345kV
GEN-2015-093	250.00	OKGE	Gracemont 345kV
GEN-2015-095	176.00	WFEC	Tap Rose Valley - Mooreland 138kV
GEN-2016-003	248.40	OKGE	Tap Badger - Woodward 345kV
GEN-2016-020	150.00	WFEC	Mooreland 138kV
GEN-2016-045	500.00	OKGE	Mathewson 345kV
GEN-2016-047	24.00	OKGE	Mustang 69kV
GEN-2016-057	500.00	OKGE	Mathewson 345kV
PRIOR QUEUED SUBTOTAL	6,573.90		
GEN-2016-098	250.00	OKGE	Tap Woodward EHV – Hitchland 345kV DBL CKT (GEN-2016-003)/Woodward District 138kV
GEN-2016-107	200.00	WFEC	Tap Cederdale - Okeene 138kV
CURRENT CLUSTER SUBTOTAL	450.00		
AREA TOTAL	7,023.90		

GROUP 2: HITCHLAND AREA			
Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2011-002	20.00	SPS	Herring 115kV
ASGI-2013-001	11.50	SPS	PanTex South 115kV
GEN-2002-008	240.00	SPS	Hitchland 345kV
GEN-2002-009	80.00	SPS	Hansford 115kV
GEN-2002-022	240.00	SPS	Bushland 230kV
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	200.00	SPS	Hitchland 115kV
GEN-2008-047	300.00	OKGE	Beaver County 345kV
GEN-2008-051	322.00	SPS	Potter County 345kV
GEN-2010-001	300.00	OKGE	Beaver County 345kV
GEN-2010-014	358.80	SPS	Hitchland 345kV
GEN-2011-014	201.00	OKGE	Tap Hitchland - Woodward Dbl Ckt (GEN-2011-014 Tap) 345kV
GEN-2011-022	299.00	SPS	Hitchland 345kV
GEN-2013-030	300.00	OKGE	Beaver County 345kV
GEN-2014-037	200.00	SPS	Tap Hitchland - Beaver County Dbl Ckt (Optima) 345kV
GEN-2015-082	200.00	OKGE	Tap Hitchland - Woodward Dbl Ckt (GEN-2011-014 Tap) 345kV
GEN-2016-001	300.30	OKGE	Tap Badger - Woodward 345kV
GEN-2016-038	300.00	SPS	Harrington 230kV
GEN-2016-041	100.00	SPS	Hitchland 345kV
GEN-2016-059	300.00	SPS	Harrington 230kV
GEN-2016-070	5.30	SPS	Martin 115kV
Llano Estacado (White Deer)	80.00	SPS	Llano Wind 115kV
SPS Distributed (Carson)	10.00	SPS	Martin 115kV
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	5,031.80		
GEN-2016-156	100.00	SPS	Texas County 115 kV
CURRENT CLUSTER SUBTOTAL	100.00		
AREA TOTAL	5,131.80		

GROUP 3: SPEARVILLE AREA			
Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2012-006	22.50	SUNCMKEC	Tap Hugoton - Rolla 69kV
ASGI-2015-001	6.13	SUNCMKEC	Ninnescah 115kV
GEN-2001-039A	105.00	SUNCMKEC	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	Ironwood 345kV
GEN-2006-021	101.00	SUNCMKEC	Flat Ridge Tap 138kV
GEN-2007-040	200.00	SUNCMKEC	Buckner 345kV
GEN-2008-018	250.00	SPS	Finney 345kV
GEN-2008-079	99.20	SUNCMKEC	Crooked Creek 115kV
GEN-2008-124	200.10	SUNCMKEC	Ironwood 345kV
GEN-2010-009	165.60	SUNCMKEC	Buckner 345kV
GEN-2010-045	197.80	SUNCMKEC	Buckner 345kV
GEN-2011-008	600.00	SUNCMKEC	Clark County 345kV
GEN-2011-016	200.10	SUNCMKEC	Ironwood 345kV
GEN-2012-007	120.00	SUNCMKEC	Rubart 115kV
GEN-2012-024	180.00	SUNCMKEC	Clark County 345kV
GEN-2013-010	99.00	SUNCMKEC	Tap Spearville - Post Rock (North of GEN-2011-017 Tap) 345kV
GEN-2015-021	20.00	SUNCMKEC	Johnson Corner 115kV
GEN-2015-027	4.90	SUNCMKEC	Crooked Creek 115kV
GEN-2016-005	150.00	SUNCMKEC	Tap Clark County - Thistle 345kV
GEN-2016-016	78.20	MIDW	North Kinsley 115kV
GEN-2016-046	299.00	SUNCMKEC	Tap Clark County - Ironwood 345kV
GEN-2016-049	310.00	SUNCMKEC	Tap Spearville - Post Rock 345kV
Gray County Wind (Montezuma)	110.00	SUNCMKEC	Gray County Tap 115kV
PRIOR QUEUED SUBTOTAL	4,073.03		
AREA TOTAL	4,073.03		

GROUP 4: NORTHWEST KANSAS AREA			
Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2013-004	36.60	SUNCMKEC	Morris 115kV
GEN-2001-039M	100.00	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-2008-092	200.60	MIDW	Post Rock 230kV
GEN-2009-008	199.50	MIDW	South Hays 230kV
GEN-2009-020	48.30	MIDW	Walnut Creek 69kV
GEN-2010-048	70.00	MIDW	Tap Beach Station - Redline 115kV
GEN-2010-057	201.00	MIDW	Rice County 230kV
GEN-2013-033	28.00	MIDW	Knoll 115kV
GEN-2014-025	2.40	MIDW	Walnut Creek 69kV
GEN-2014-041	120.80	SUNCMKEC	Arnold 115kV
GEN-2015-061	200.00	SUNCMKEC	Mingo 345kV
GEN-2015-064	197.80	SUNCMKEC	Mingo 115kV
GEN-2015-065	202.40	SUNCMKEC	Mingo 345kV
GEN-2016-067	73.60	SUNCMKEC	Mingo 345kV
PRIOR QUEUED SUBTOTAL	2,206.00		
AREA TOTAL	2,206.00		

GROUP 6: SOUTH TEXAS PANHANDLE/NEW MEXICO 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	27.30	SPS	Lovington 115kV
ASGI-2011-003	10.00	SPS	Hendricks 69kV
ASGI-2011-004	20.00	SPS	Pleasant Hill 69kV
ASGI-2012-002	18.15	SPS	FE-Clovis Interchange 115kV
ASGI-2013-002	18.40	SPS	FE Tucumcari 115kV
ASGI-2013-003	18.40	SPS	FE Clovis 115kV
ASGI-2013-005	1.65	SPS	FE Clovis 115kV
ASGI-2013-006	2.00	SPS	SP-Erskine 115kV
ASGI-2014-001	2.50	SPS	SP-Erskine 115kV
ASGI-2015-002	2.00	SPS	SP-Yuma 69kV
ASGI-2016-001	2.50	SPS	Wolfforth 115kV
ASGI-2016-002	0.35	SPS	Hurlwood 115kV
ASGI-2016-004	9.60	SPS	
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	502.00	SPS	Hobbs 230kV & Hobbs 115kV
GEN-2008-022	300.00	SPS	Crossroads 345kV
GEN-2010-006	205.00	SPS	Jones 230kV
GEN-2010-046	56.00	SPS	TUCO Interchange 230kV
GEN-2011-025	80.00	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	Cirrus Tap 230kV
GEN-2012-020	478.00	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-2013-016	203.00	SPS	TUCO 345kV
GEN-2013-022	25.00	SPS	Norton 115kV
GEN-2013-027	150.00	SPS	Tap Tolk - Yoakum 230kV
GEN-2014-012	225.00	SPS	Tap Hobbs Interchange - Andrews 230kV
GEN-2014-033	70.00	SPS	Chaves County 115kV
GEN-2014-034	70.00	SPS	Chaves County 115kV
GEN-2014-035	30.00	SPS	Chaves County 115kV
GEN-2014-040	320.40	SPS	Castro 115kV
GEN-2014-047	40.00	SPS	Crossroads 345kV
GEN-2014-074	152.00	SPS	Tap TUCO Interchange - Oklaunion (GEN-2014-074 Tap) 345kV
GEN-2015-014	150.00	SPS	Tap Cochran - Lehman 115kV
GEN-2015-018	80.00	SPS	Tap Curry County - Bailey 115kV
GEN-2015-020	100.00	SPS	Oasis 115kV
GEN-2015-022	112.00	SPS	Swisher 115kV
GEN-2015-031	150.50	SPS	Tap Amarillo South - Swisher 230kV
GEN-2015-033	152.00	SPS	Tap TUCO Interchange - Oklaunion (GEN-2014-074 Tap) 345kV

GEN-2015-039	50.00	SPS	Tap Deaf Smith - Plant X 230kV
GEN-2015-040	50.10	SPS	Mustang 230kV
GEN-2015-041	5.00	SPS	TUCO Interchange 345kV
GEN-2015-056	101.20	SPS	Crossroads 345kV
GEN-2015-058	50.00	SPS	Atoka 115kV
GEN-2015-068	300.00	SPS	TUCO Interchange 345kV
GEN-2015-075	51.50	SPS	Carlisle 69kV
GEN-2015-078	50.10	SPS	Mustang 115kV
GEN-2015-079	129.20	SPS	Tap Yoakum - Hobbs Interchange 230kV
GEN-2015-080	129.20	SPS	Tap Yoakum - Hobbs Interchange 230kV
GEN-2016-002	74.00	SPS	Happy Interchange 115kV
GEN-2016-015	100.00	SPS	Andrews 230kV
GEN-2016-039	112.00	SPS	Swisher 115kV
GEN-2016-056	200.00	SPS	Carlisle 230kV
GEN-2016-058	200.00	SPS	Yoakum 345kV
GEN-2016-062	250.70	SPS	Andrews 230kV
GEN-2016-069	31.35	SPS	Chaves County 115kV
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	S_Jal 115kV
SPS Distributed (Yuma)	2.57	SPS	SP-Yuma 69kV
PRIOR QUEUED SUBTOTAL	6,930.07		
GEN-2016-089	100.00	SPS	Tap Roosevelt South -Tolk East 230kV/ Tap Roosevelt North - Tolk West
GEN-2016-090	100.00	SPS	Pleasant Hill 115 kV
GEN-2016-099	250.00	SPS	Deaf Smith 230kV/Tap Deaf Smith - Plant X 230kV/Castro County 115kV
GEN-2016-117	50.00	SPS	Pleasant Hill 230kV/ Pleasant Hill 115kV
CURRENT CLUSTER SUBTOTAL	500.00		
AREA TOTAL	7,430.07		

GROUP 7: SOUTHWEST OKLAHOMA AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-026	74.30	WFEC	Washita 138kV
GEN-2002-005	120.00	WFEC	Red Hills Tap 138kV
GEN-2003-004	100.00	WFEC	Washita 138kV
GEN-2003-005	100.00	WFEC	Anadarko - Paradise (Blue Canyon) 138kV
GEN-2003-022	120.00	AEPW	Weatherford 138kV
GEN-2004-020	27.00	AEPW	Weatherford 138kV
GEN-2004-023	20.60	WFEC	Washita 138kV
GEN-2005-003	30.60	WFEC	Washita 138kV
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-2007-052	150.00	WFEC	Anadarko 138kV
GEN-2008-023	150.00	AEPW	Hobart Junction 138kV
GEN-2008-037	101.00	WFEC	Slick Hills 138kV
GEN-2011-037	7.00	WFEC	Blue Canyon 5 138kV
GEN-2011-049	250.70	OKGE	Border 345kV
GEN-2012-028	74.80	WFEC	Gotebo 69kV
GEN-2015-004	52.90	OKGE	Border 345kV
GEN-2015-013	120.00	WFEC	Synder 138kV
GEN-2015-055	40.00	WFEC	Erick 138kV
GEN-2015-071	200.00	AEPW	Chisholm 345kV
GEN-2015-084	51.30	AEPW	Hollis 138kV
GEN-2015-085	122.40	AEPW	Altus Junction 138kV
GEN-2016-008	40.00	WFEC	Granite 69kV
GEN-2016-037	300.00	AEPW	Tap Chisholm - Gracemont 345kV
GEN-2016-051	9.80	AEPW	Tap Clinton Junction - Weatherford Southeast 138kV
PRIOR QUEUED SUBTOTAL	2,687.40		
AREA TOTAL	2,687.40		

GROUP 8: NORTH OKLAHOMA/SOUTH CENTRAL KANSAS AREA			
Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2010-006	150.00	AECI	Remington 138kV
ASGI-2014-014	56.40	GRDA	Ferguson 69kV
ASGI-2015-004	56.36	GRDA	Coffeyville City 69kV
GEN-2002-004	200.00	WERE	Latham 345kV
GEN-2005-013	201.00	WERE	Caney River 345kV
GEN-2007-025	300.00	WERE	Viola 345kV
GEN-2008-013	300.00	OKGE	Hunter 345kV
GEN-2008-021	42.00	WERE	Wolf Creek 345kV
GEN-2008-098	100.80	WERE	Waverly 345kV
GEN-2009-025	59.80	OKGE	Nardins 69kV
GEN-2010-003	100.80	WERE	Waverly 345kV
GEN-2010-005	299.20	WERE	Viola 345kV
GEN-2010-055	4.50	AEPW	Wekiwa 138kV
GEN-2011-057	150.40	WERE	Creswell 138kV
GEN-2012-032	300.00	OKGE	Open Sky 345kV
GEN-2012-033	98.10	OKGE	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV
GEN-2012-041	121.50	OKGE	Ranch Road 345kV
GEN-2013-012	147.00	OKGE	Redbud 345kV
GEN-2013-028	559.50	GRDA	Tap N Tulsa - GRDA 1 345kV

GEN-2013-029	300.00	OKGE	Renfrow 345kV
GEN-2014-001	200.60	WERE	Tap Wichita - Emporia Energy Center (GEN-2014-001 Tap) 345kV
GEN-2014-028	35.00	EMDE	Riverton 161kV
GEN-2014-064	248.40	OKGE	Otter 138kV
GEN-2015-001	200.00	OKGE	Ranch Road 345kV
GEN-2015-015	154.60	OKGE	Tap Medford Tap - Coyote 138kV
GEN-2015-016	200.00	KCPL	Tap Marmaton - Centerville 161kV
GEN-2015-024	220.00	WERE	Tap Thistle - Wichita 345kV Dbl CKT
GEN-2015-025	220.00	WERE	Tap Thistle - Wichita 345kV Dbl CKT
GEN-2015-030	200.10	OKGE	Sooner 345kV
GEN-2015-034	200.00	OKGE	Ranch Road 345kV
GEN-2015-047	300.00	OKGE	Sooner 345kV
GEN-2015-052	300.00	WERE	Tap Open Sky - Rose Hill 345kV
GEN-2015-062	4.50	OKGE	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV
GEN-2015-063	300.00	OKGE	Tap Woodring - Mathewson 345kV
GEN-2015-066	248.40	OKGE	Tap Cleveland - Sooner 345kV
GEN-2015-067	150.00	OKGE	Sooner 138kV
GEN-2015-069	300.00	WERE	Union Ridge 230kV
GEN-2015-073	200.10	WERE	Emporia Energy Center 345kV
GEN-2015-083	125.00	WERE	Belle Plain 138kV
GEN-2015-090	220.00	WERE	Tap Thistle - Wichita 345kV Dbl CKT
GEN-2016-009	29.00	OKGE	Osage 69kV
GEN-2016-012	200.00	WERE	Tap Wolf Creek - LaCygne 345kV
GEN-2016-022	151.80	OKGE	Ranch Road 345kV
GEN-2016-024	50.00	WERE	Midian 138kV
GEN-2016-031	1.50	OKGE	Ranch Road 345kV
GEN-2016-032	200.00	OKGE	Tap Marshall - Cottonwood Creek 138kV
GEN-2016-048	74.00	OKGE	Sooner 138kV
GEN-2016-060	25.00	WERE	Belle Plain 138kV
GEN-2016-061	250.70	OKGE	Tap Woodring - Sooner 345kV
GEN-2016-068	250.00	OKGE	Woodring 345kV
GEN-2016-071	200.10	OKGE	Chilocco 138kV
GEN-2016-072	300.00	OKGE	Tap Hunter - Renfrow 345kV
GEN-2016-073	220.00	WERE	Tap Thistle - Wichita 345kV Dbl CKT
PRIOR QUEUED SUBTOTAL	9,526.16		
GEN-2016-104	400.00	OKGE	Woodring 345kV
GEN-2016-154	540.00	GRDA	Grand River Energy Center 161kV
CURRENT CLUSTER SUBTOTAL	940.00		
AREA TOTAL	10,466.16		

GROUP 9: 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-2004-023N	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	NPPD	North Petersburg 115kV
GEN-2007-011N08	81.00	NPPD	Bloomfield 115kV
GEN-2007-017IS	166.00	WAPA	Ft Thompson-Grand Island 345kV
GEN-2007-018IS	234.00	WAPA	Ft Thompson-Grand Island 345kV

GEN-2008-086N02	201.00	NPPD	Meadow Grove 230kV
GEN-2008-1190	60.00	OPPD	S1399 161kV
GEN-2008-123N	89.70	NPPD	Tap Pauline - Hildreth (Rosemont) 115kV
GEN-2009-040	73.80	WERE	Marshall 115kV
GEN-2010-041	10.50	OPPD	S1399 161kV
GEN-2010-051	200.00	NPPD	Tap Hoskins - Twin Church (Dixon County) 230kV
GEN-2011-018	73.60	NPPD	Steele City 115kV
GEN-2011-027	120.00	NPPD	Tap Hoskins - Twin Church (Dixon County) 230kV
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
GEN-2012-021	4.80	LES	Terry Bundy Generating Station 115kV
GEN-2013-002	50.60	LES	Tap Sheldon - Folsom & Pleasant Hill (GEN-2013-002 Tap) 115kV CKT 2
GEN-2013-008	1.20	NPPD	Steele City 115kV
GEN-2013-019	73.60	LES	Tap Sheldon - Folsom & Pleasant Hill (GEN-2013-002 Tap) 115kV CKT 2
GEN-2013-032	204.00	NPPD	Antelope 115kV
GEN-2014-004	4.00	NPPD	Steele City 115kV (GEN-2011-018 POI)
GEN-2014-013	73.50	NPPD	Meadow Grove (GEN-2008-086N2 Sub) 230kV
GEN-2014-031	35.80	NPPD	Meadow Grove 230kV
GEN-2014-032	10.20	NPPD	Meadow Grove 230kV
GEN-2014-039	73.40	NPPD	Friend 115kV
GEN-2015-007	160.00	NPPD	Hoskins 345kV
GEN-2015-023	300.70	NPPD	Holt County 345kV
GEN-2015-053	50.00	NPPD	Antelope 115kV
GEN-2015-076	158.40	NPPD	Belden 115kV
GEN-2015-087	66.00	NPPD	Tap Fairbury - Hebron 115kV
GEN-2015-088	300.00	NPPD	Tap Moore - Pauline 345kV
GEN-2015-089	200.00	WAPA	Utica 230kV
GEN-2016-021	300.00	NPPD	Hoskins 345kV
GEN-2016-023	150.50	WAPA	Tap Laramie River – Sidney 345kV
GEN-2016-029	150.50	WAPA	Tap Laramie River – Sidney 345kV
GEN-2016-034	90.00	WAPA	Tap Laramie River – Sidney 345kV
GEN-2016-043	230.00	NPPD	Hoskins 345kV
GEN-2016-050	250.70	NPPD	Tap Axtell - Post Rock 345kV
GEN-2016-055	126.50	NPPD	Tap Pauline - Hildreth (Rosemont) 115kV
GEN-2016-064	116.00	NPPD	Tap Pauline - Hildreth (Rosemont) 115kV
GEN-2016-075	50.00	WAPA	Tap Fort Thompson - Grand Island 345kV
NPPD Distributed (Broken Bow)	8.30	NPPD	Broken Bow 115kV
NPPD Distributed (Buffalo County Solar)	10.00	NPPD	Kearney Northeast
NPPD Distributed (Burt County Wind)	12.00	NPPD	Tekamah & Oakland 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)	11.90	NPPD	Ord 115kV
NPPD Distributed (Stuart)	2.10	NPPD	Ainsworth 115kV
PRIOR QUEUED SUBTOTAL	5,166.30		
GEN-2016-093	72.50	NPPD	Stegall 115kV
GEN-2016-109	120.00	NPPD	Fairbury 115kV
CURRENT CLUSTER SUBTOTAL	192.50		
AREA TOTAL	5,358.80		

GROUP 10: SOUTHEAST OKLAHOMA/NORTHEAST TEXAS AREA

Request	Capacity	Area	Proposed Point of Interconnection
AREA TOTAL	0.00		

GROUP 12: NORTHWEST ARKANSAS AREA

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2013-011	30.00	AEPW	Turk 138kV
PRIOR QUEUED SUBTOTAL	30.00		
AREA TOTAL	30.00		

GROUP 13: NORTHWEST MISSOURI AREA

Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2016-003	6.00	KCPL	
GEN-2008-129	80.00	KCPL	Pleasant Hill 161kV
GEN-2010-036	4.60	WERE	6th Street 115kV
GEN-2011-011	50.00	KCPL	Iatan 345kV
GEN-2014-021	300.00	KCPL	Tap Nebraska City - Mullin Creek 345kV
GEN-2015-005	200.10	KCPL	Tap Nebraska City - Sibley 345kV
GEN-2016-013	10.00	EMDE	La Russell 161kV
GEN-2016-014	10.00	EMDE	La Russell 161kV
GEN-2016-040	18.40	KCPL	Tap Nebraska City – Sibley 345kV
PRIOR QUEUED SUBTOTAL	679.10		
GEN-2016-170	100.00	WERE	Kelly 115kV/Smittyville 115kV
CURRENT CLUSTER SUBTOTAL	100.00		
AREA TOTAL	779.10		

GROUP 14: SOUTH CENTRAL OKLAHOMA AREA

Request	Capacity	Area	Proposed Point of Interconnection
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ASGI-2015-006	9.00	SWPA	Tupelo 138kV
GEN-2011-040	111.00	OKGE	Carter County 138kV
GEN-2011-050	109.80	AEPW	Santa Fe Tap 138kV
GEN-2012-004	41.40	OKGE	Carter County 138kV
GEN-2013-007	100.30	OKGE	Tap Prices Falls - Carter 138kV
GEN-2014-057	250.00	AEPW	Tap Lawton - Sunnyside (Terry Road) 345kV
GEN-2015-036	303.60	OKGE	Johnston County 345kV
GEN-2015-045	20.00	AEPW	Tap Lawton - Sunnyside (Terry Road) 345kV
GEN-2015-092	250.00	AEPW	Tap Lawton - Sunnyside (Terry Road) 345kV
GEN-2016-028	100.00	AEPW	Clayton 138kV
GEN-2016-030	100.00	OKGE	Brown 138kV
GEN-2016-042	20.90	AEPW	Tap Lawton - Sunnyside 345kV
GEN-2016-063	200.00	OKGE	Tap Sunnyside – Hugo 345kV
PRIOR QUEUED SUBTOTAL	1,616.00		
AREA TOTAL	1,616.00		

GROUP 15: E-SOUTH DAKOTA AREA

Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2016-005	20.00	WAPA	Tap White Lake - Stickeny 69kV
ASGI-2016-006	20.00	WAPA	Mitchell
ASGI-2016-007	20.00	WAPA	Kimball 69kV
G176	100.00	XEL	Yankee 115kV
G255	100.00	XEL	Yankee 115kV
G586	30.00	XEL	Yankee 115kV
G736	200.00	OTP	Big Stone South 230kV
GEN-2002-009IS	40.00	WAPA	Ft Thompson 69kV [Hyde 69kV]
GEN-2007-013IS	50.00	WAPA	Wessington Springs 230kV
GEN-2007-014IS	100.00	WAPA	Wessington Springs 230kV
GEN-2007-023IS	50.00	WAPA	Formit-Summit 115kV
GEN-2009-001IS	200.00	WAPA	Groton-Watertown 345kV
GEN-2009-018IS	100.00	WAPA	Groton 115kV
GEN-2010-001IS	99.00	WAPA	Bismarck-Glenham 230kV
GEN-2010-003IS	34.00	WAPA	Wessington Springs 230kV
GEN-2012-014IS	99.50	WAPA	Groton 115kV
GEN-2013-001IS	90.00	WAPA	Summit-Watertown 115kV
GEN-2013-009IS	19.50	WAPA	Redfield NW 115kV
GEN-2014-001IS	103.70	WAPA	Newell-Maurine 115kV
GEN-2015-097	100.00	WAPA	Groton 115kV
GEN-2016-017	250.70	WAPA	Tap Fort Thompson - Leland Olds 345kV
H081	200.00	XEL	Tap Brookings - Lyons County 345kV
J432	98.00	XEL	Brookings 345kV
J436	150.00	OTP	Big Stone South 345kV
J437	150.00	OTP	Big Stone South 345kV
J442	200.00	OTP	Big Stone 230 kV
J460	200.00	XEL	Tap Brookings - Lyons County 345kV
J488	151.80	OTP	Tap Big Stone - Ellendale 345kV
J489	151.80	OTP	Tap Big Stone - Ellendale 345kV
J493	150.00	OTP	Burr 115kV
J510	326.90	OTP	Tap Brookings - Big Stone 345kV
J525	50.00	XEL	Lake Wilson 69kV
J526	300.00	OTP	Tap Brookings - Big Stone 345kV
PRIOR QUEUED SUBTOTAL	3,954.90		
AREA TOTAL	3,954.90		

GROUP 16: W-NORTH DAKOTA AREA

Request	Capacity	Area	Proposed Point of Interconnection
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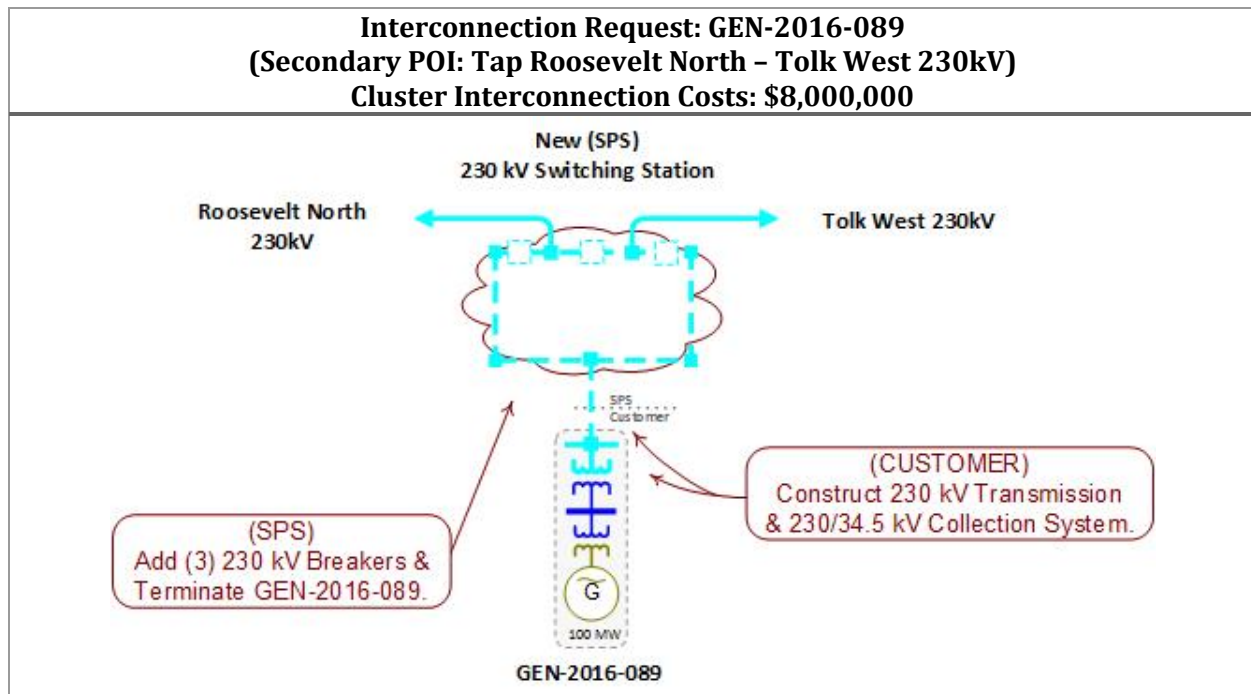
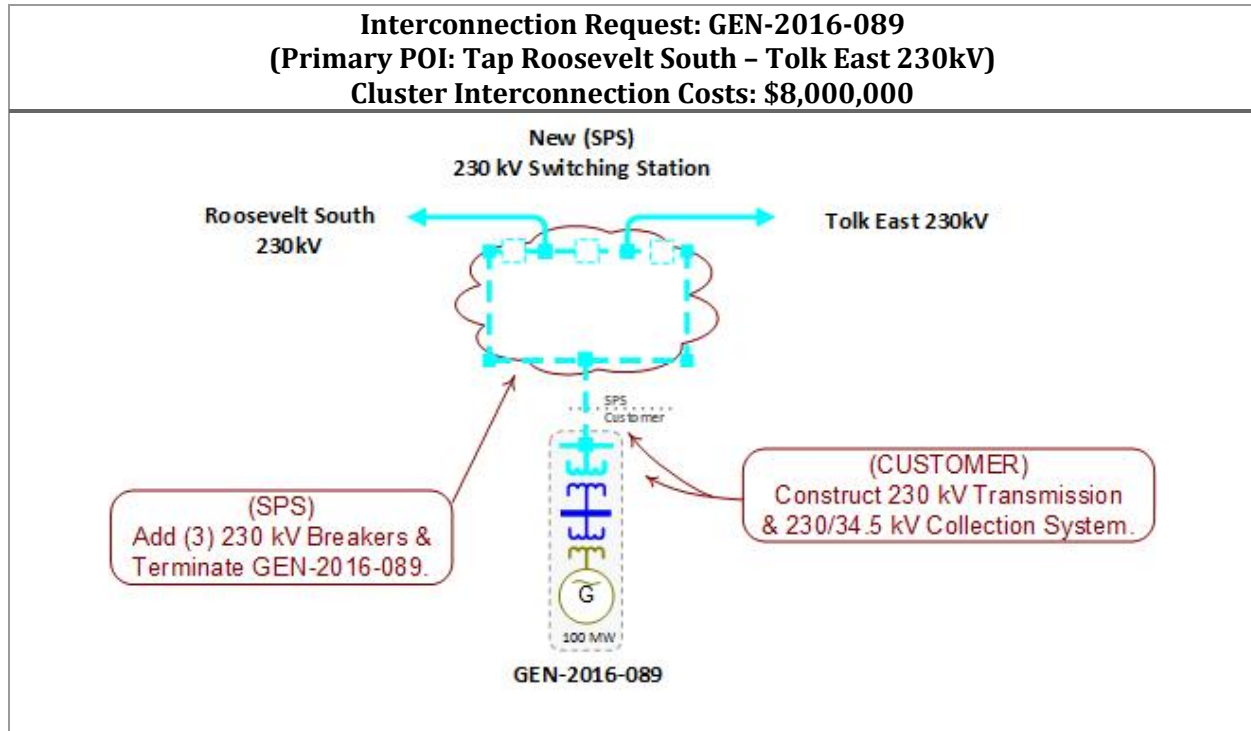
G380	150.00	OTP	Rugby 115kV
G408	12.00	XEL	Tap McHenry - Souris 115kV
G502	50.60	MP	Milton Young 230kV
G645	50.00	GRE	Ladish 115kV
G723	10.00	MDU	Haskett 115kV
G752	150.00	MDU	Tap Bison - Hettinger 230kV
G788	49.00	GRE	Ladish 115kV
G830	99.00	GRE	GRE McHenry 115kV
GEN-2005-008IS	50.00	WAPA	Hilken 230kV [Ecklund 230kV]
GEN-2006-015IS	50.00	WAPA	Hilken 230kV [Ecklund 230kV]
GEN-2007-015IS	100.00	WAPA	Hilken 230kV [Ecklund 230kV]
GEN-2007-027IS	99.00	WAPA	Bismarck-Garrison 230kV #1
GEN-2009-026IS	110.00	WAPA	Dickenson-Heskett 230kV
GEN-2010-007IS	172.50	WAPA	Antelope Valley 345kV
GEN-2012-006IS	125.01	WAPA	Williston-Ch. Creek 230kV
GEN-2012-012IS	75.00	WAPA	Wolf Point-Circle 115kV
GEN-2014-003IS	91.00	WAPA	Culbertson 115kV
GEN-2014-004IS	384.20	WAPA	Charlie Creek 345kV
GEN-2014-006IS	125.00	WAPA	Williston 115kV
GEN-2014-010IS	150.00	WAPA	Neset 115kV
GEN-2014-014IS	151.50	WAPA	Belfield-Rhame 230kV
GEN-2015-046	300.00	WAPA	Tande 345kV
GEN-2015-091	101.20	WAPA	Daglum 230kV
GEN-2015-096	150.00	WAPA	Tap Belfield - Rhame 230kV
GEN-2015-098	100.00	WAPA	Mingusville 230kV
GEN-2016-004	202.00	WAPA	Leland Olds 230kV
GEN-2016-044	400.00	WAPA	Tap Groton - Leland Olds 345kV
GEN-2016-052	3.30	WAPA	Hilken 230kV
GEN-2016-053	3.30	WAPA	Hilken 230kV
GEN-2016-065	6.80	WAPA	Tap Belfield - Rhame (Daglum) 230kV
GEN-2016-066	13.00	WAPA	Tap Belfield - Rhame (Daglum) 230kV
J003	20.00	MDU	Baker 115kV
J249	180.00	MDU	MDU Tatanka 230kV
J262	100.00	OTP	Jamestown 345
J263	100.00	OTP	Jamestown 345
J290	150.00	XEL	Tap Glenboro South - Rugby 230kV
J316	150.00	MDU	MDU 230 kV Tatanka-Ellendale line
MPC01200	98.90	OTP	Maple River 230kV
MPC02100	100.00	OTP	Tap Center - Mandan 230kV
PRIOR QUEUED SUBTOTAL	4,432.31		
AREA TOTAL	0.00		

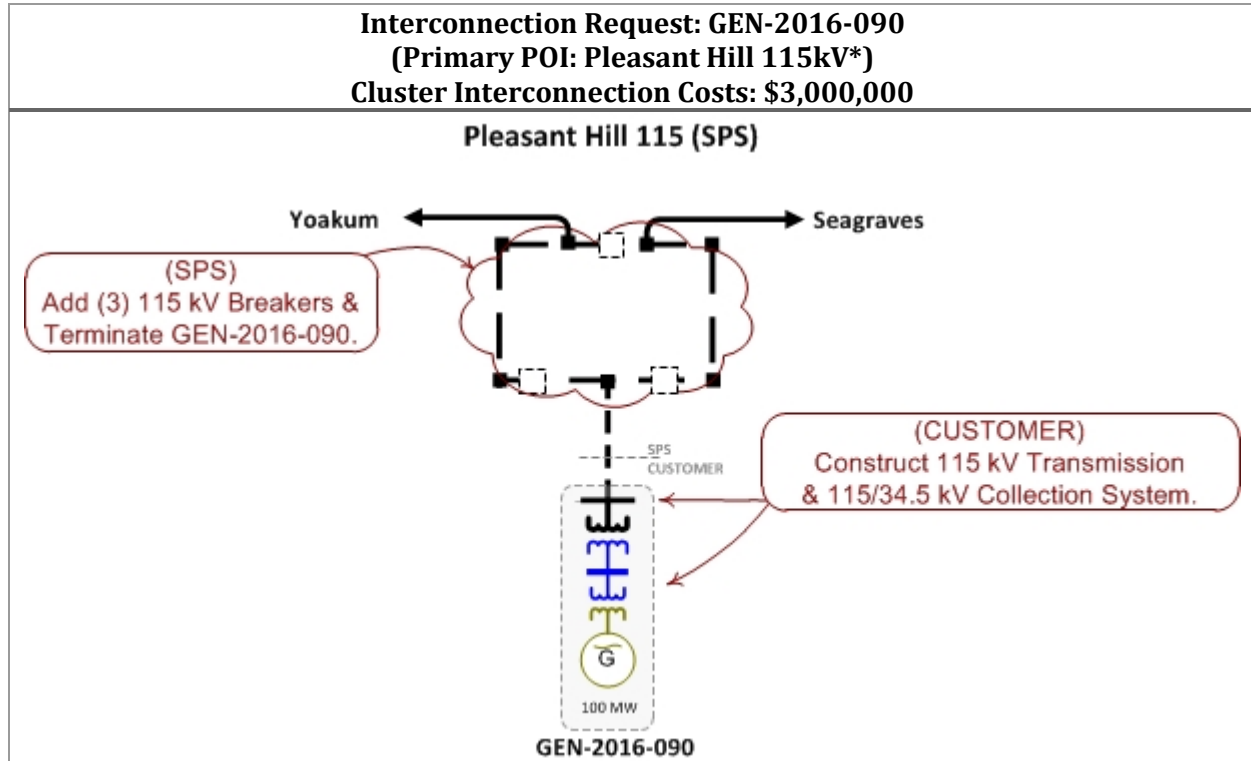
GROUP 17: W-SOUTH DAKOTA AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2006-002IS	51.00	WAPA	Wessington Springs 230kV
GEN-2009-006IS	90.00	WAPA	Mission 115kV
GEN-2009-007IS	100.00	WAPA	Mission 115kV
GEN-2009-020AIS	130.50	WAPA	Tripp Junction 115kV
GEN-2012-009IS	99.00	WAPA	Fort Randall 115kV
GEN-2016-054	3.40	WAPA	Wessington Springs 230kV
J490	60.00	MDU	McIntosh 115kV
PRIOR QUEUED SUBTOTAL	533.90		
AREA TOTAL	0.00		

GROUP 18: E-NORTH DAKOTA AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2002-008IS	40.50	WAPA	Edgeley 115kV [Pomona 115kV]
GEN-2005-003IS	100.00	WAPA	Nelson 115kV
GEN-2007-020IS	16.00	WAPA	Nelson 115kV
GEN-2008-008IS	5.00	WAPA	Nelson 115kV
GEN-2016-007	100.00	WAPA	Valley City 115kV
PRIOR QUEUED SUBTOTAL	261.50		
AREA TOTAL	0.00		

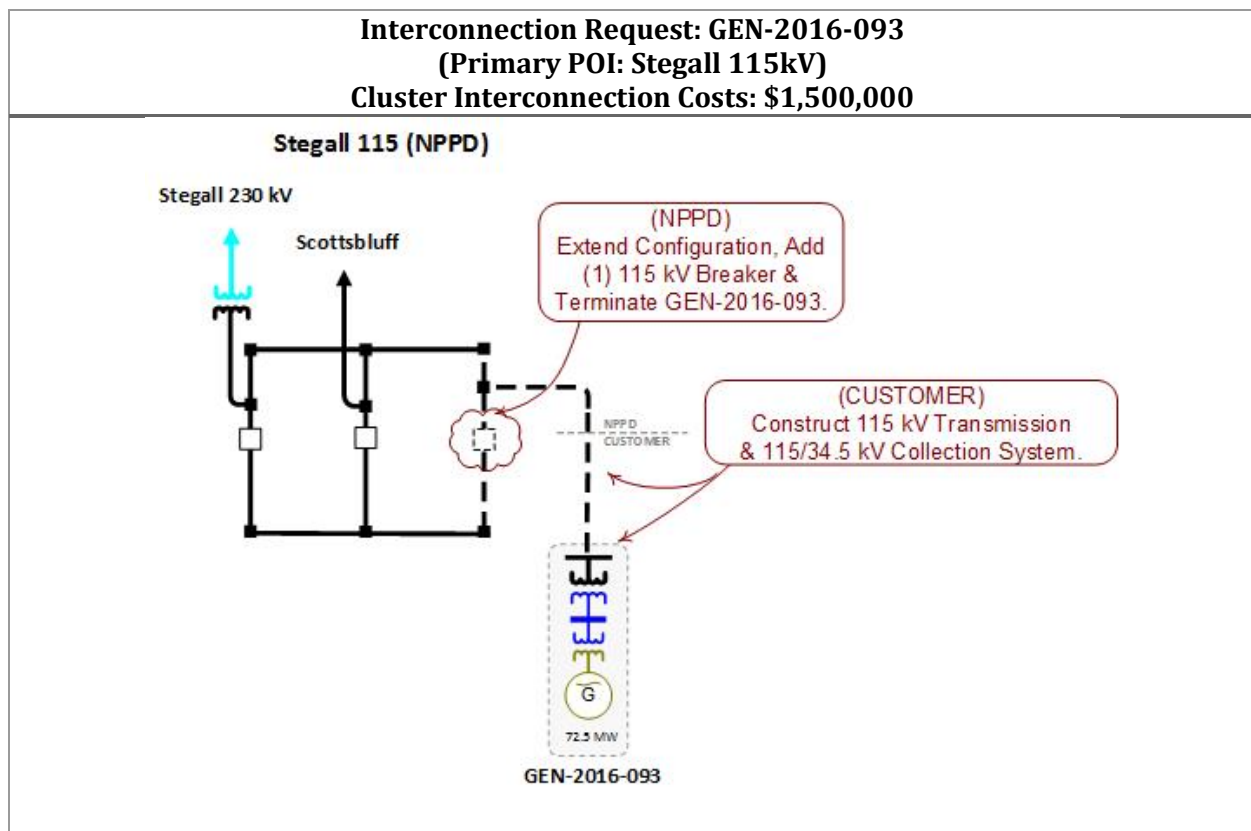
CLUSTER TOTAL (CURRENT STUDY)	2,282.5	MW
PQ TOTAL (PRIOR QUEUED)	53,702.4	MW
CLUSTER TOTAL (INCLUDING PRIOR QUEUED)	55,984.9	MW

11.4 D: PROPOSED POINT OF INTERCONNECTION ONE-LINE DIAGRAMS

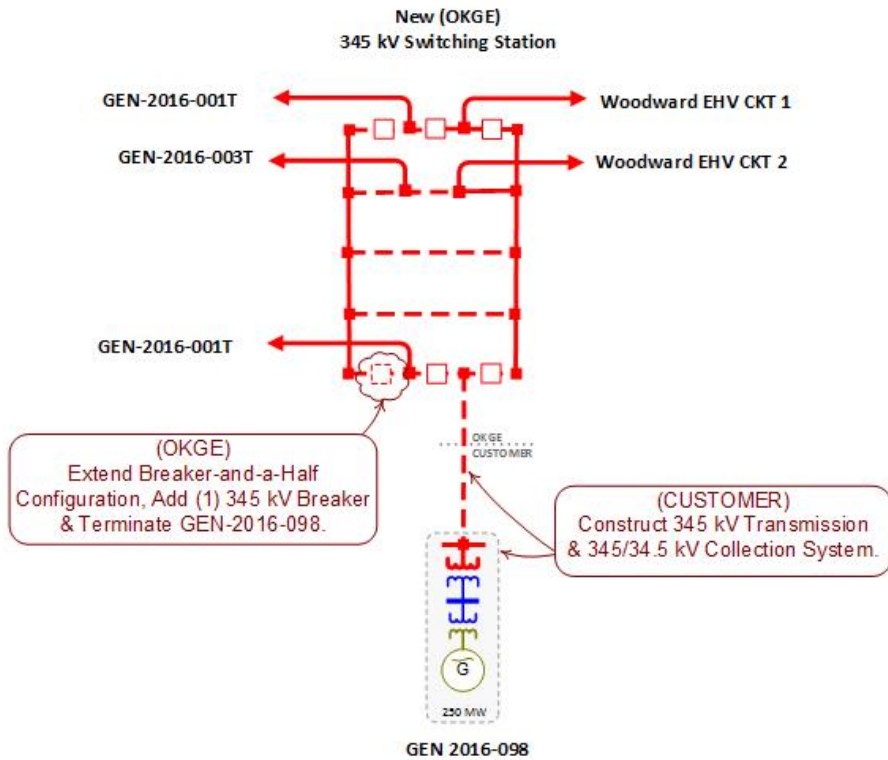




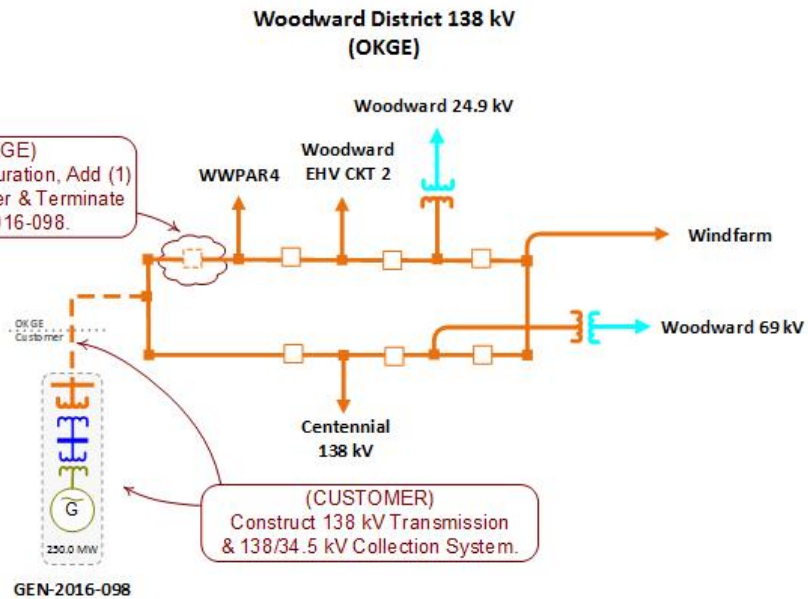
*Ownership of POI will have to be verified during the DISIS Facility Analysis

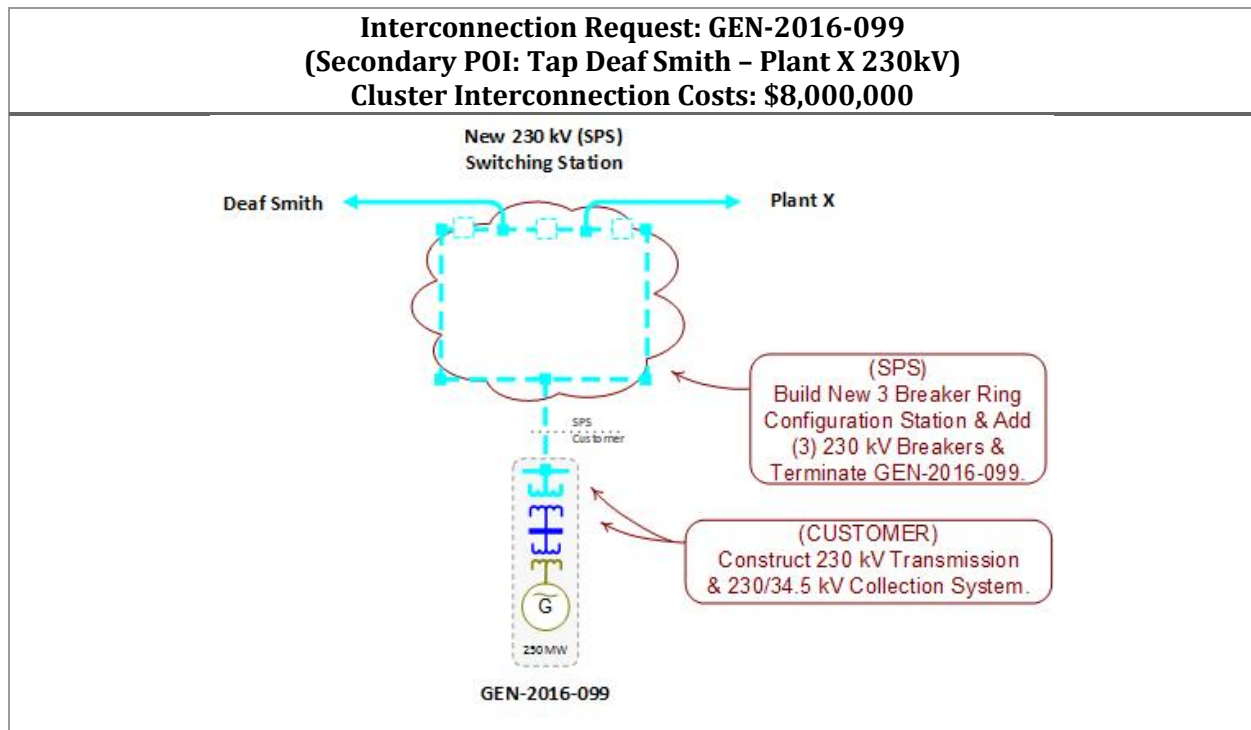
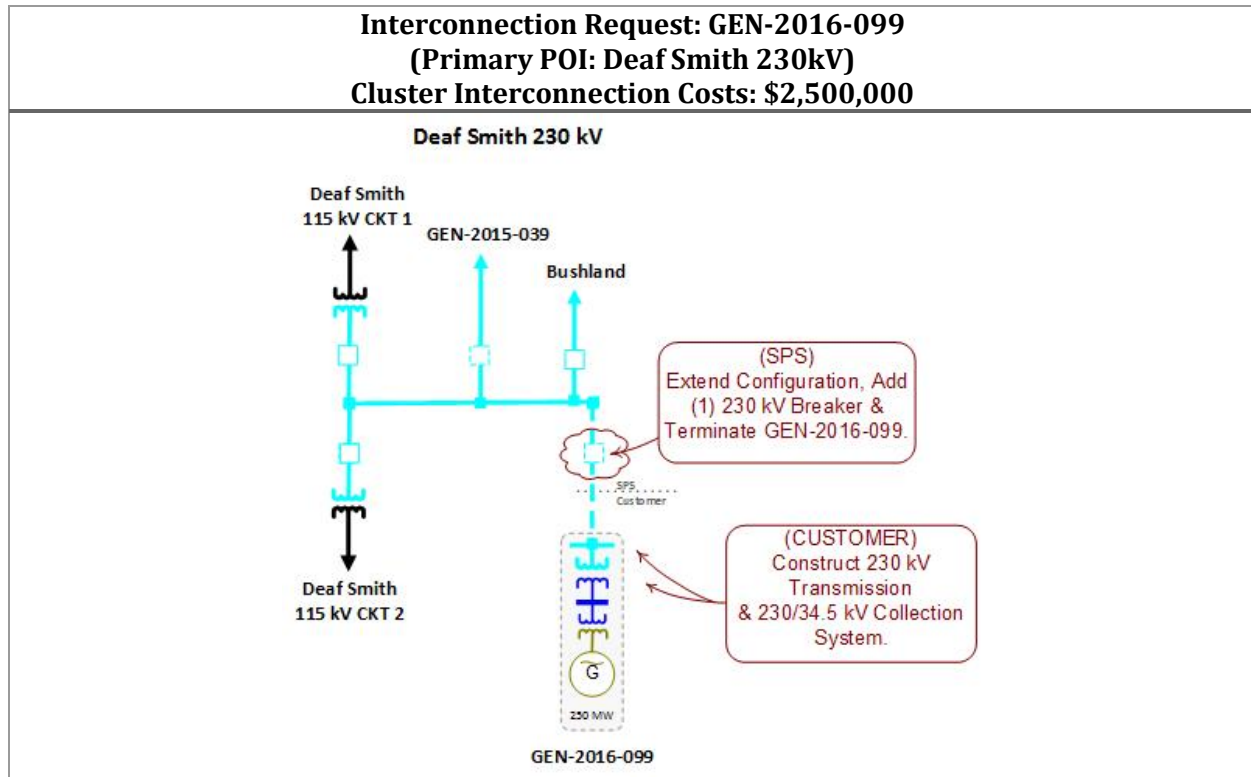


**Interconnection Request: GEN-2016-098
 (Primary POI: Tap Woodward EHV - Hitchland 345kV DBL CKT (GEN-2016-003))
 Cluster Interconnection Costs: \$3,000,000**

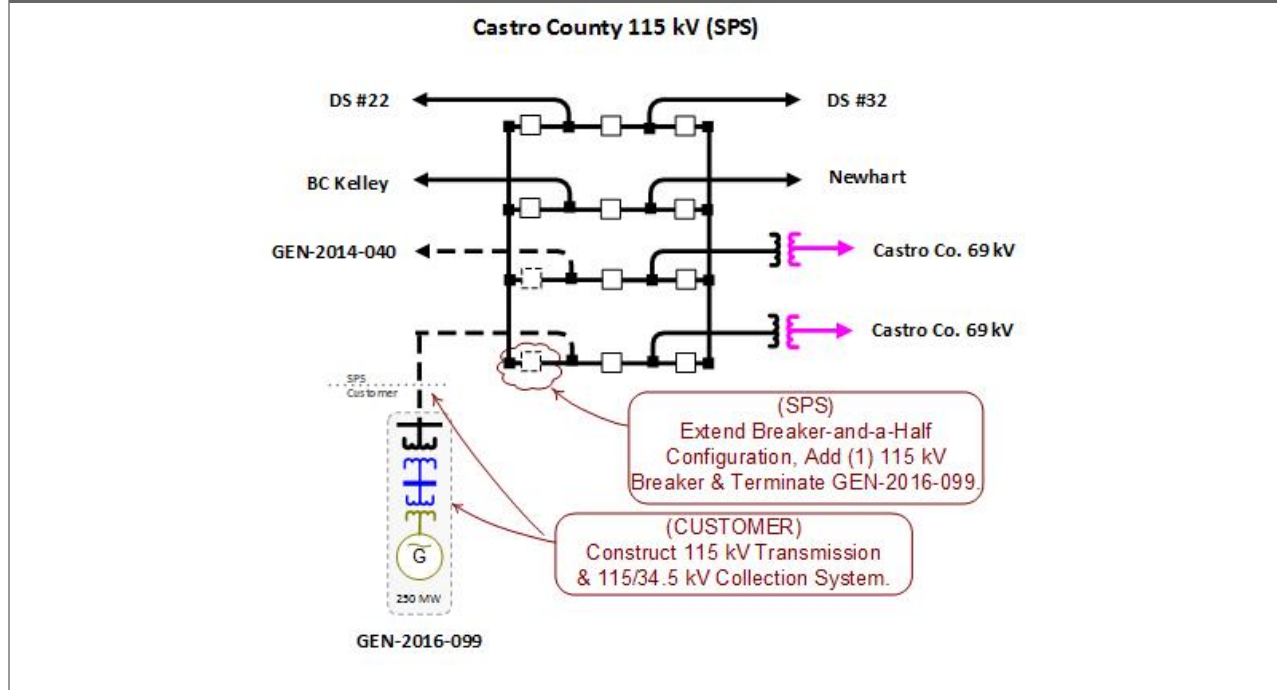


**Interconnection Request: GEN-2016-098
 (Secondary POI: Woodward District 138kV)
 Cluster Interconnection Costs: \$2,000,000**

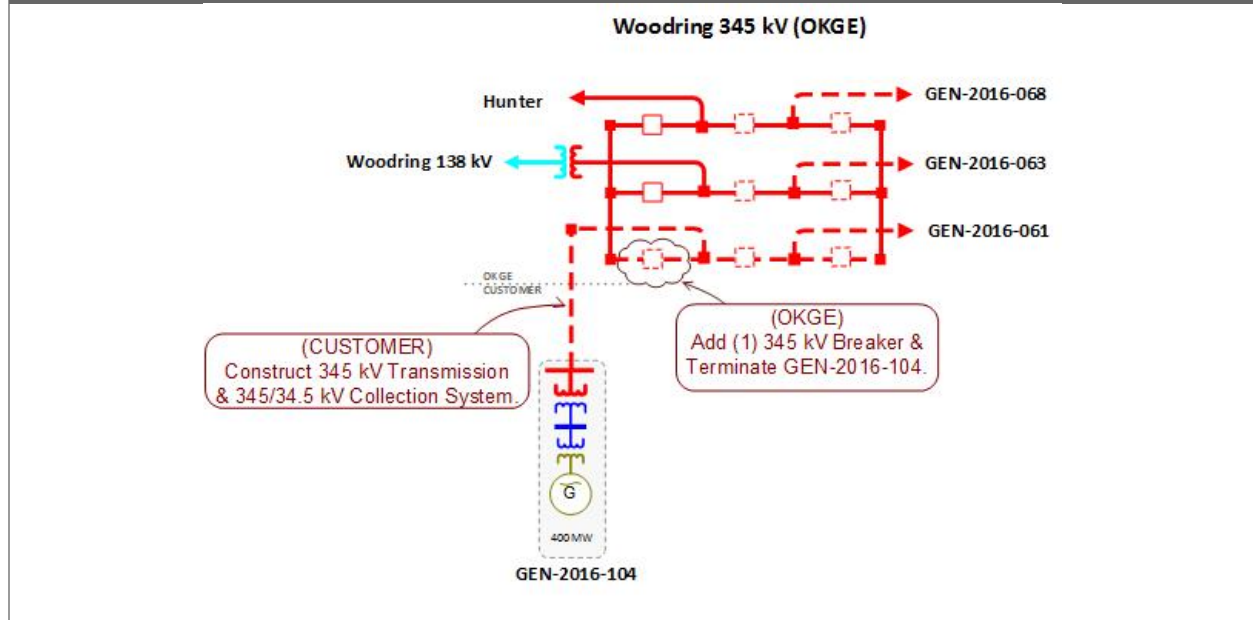




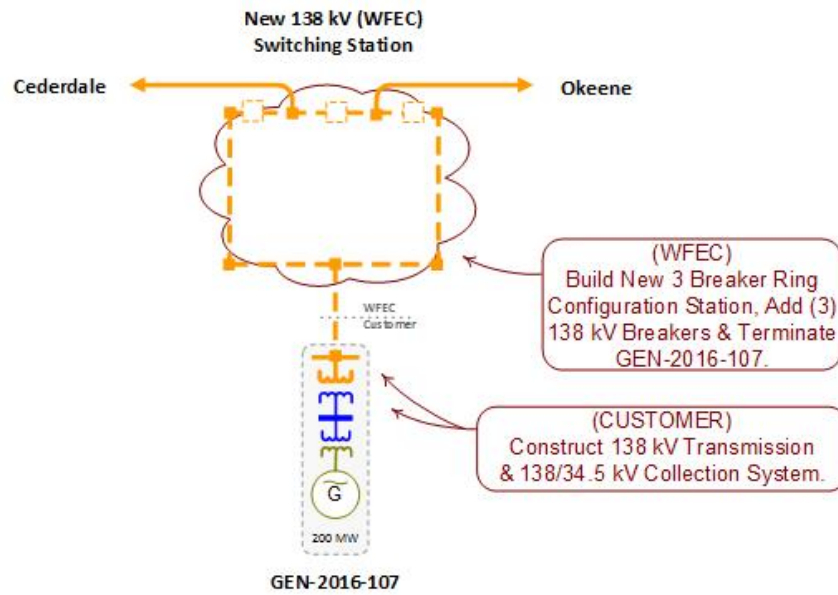
**Interconnection Request: GEN-2016-099
 (Secondary POI: Castro County 115kV)
 Cluster Interconnection Costs: \$2,000,000**

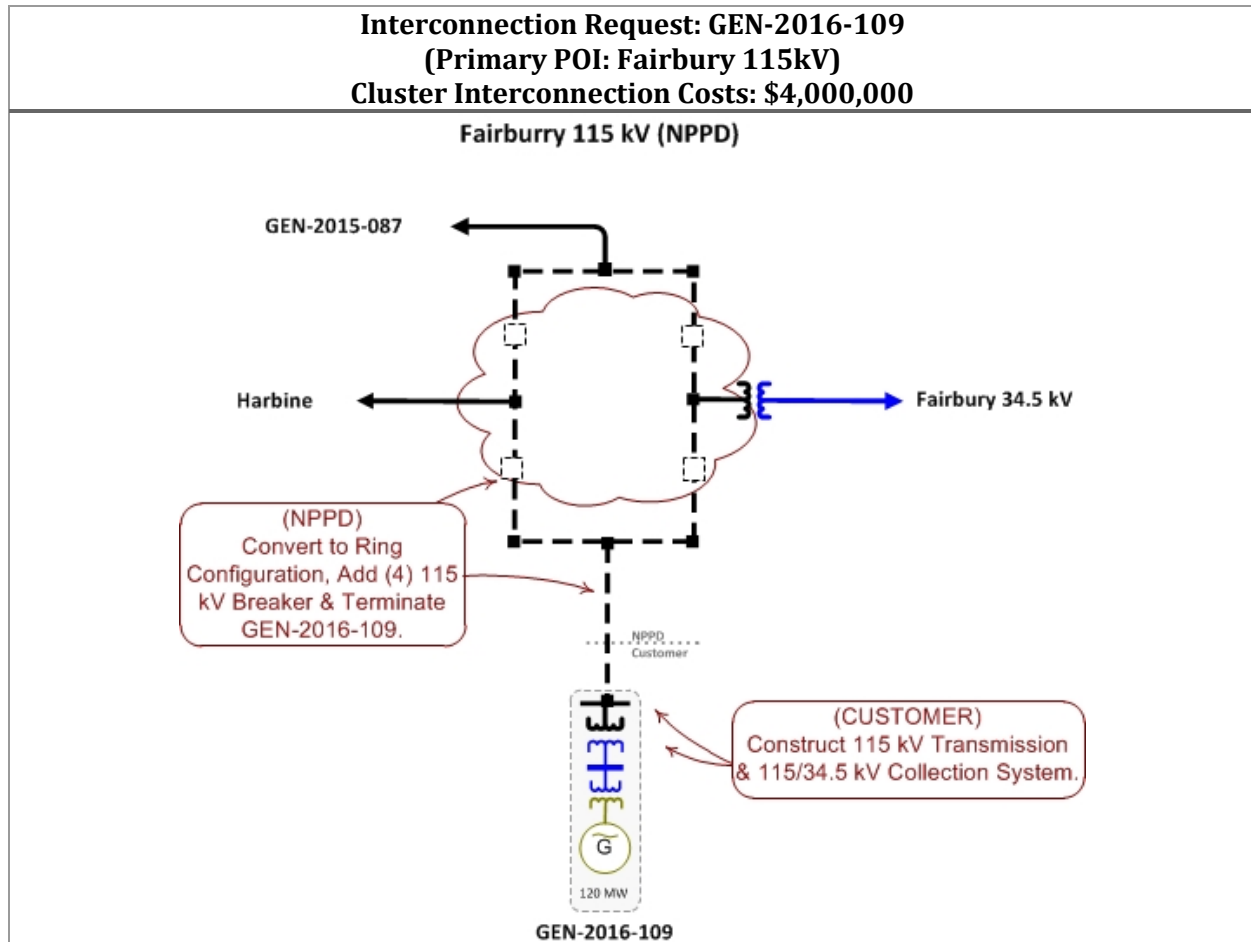


**Interconnection Request: GEN-2016-104
 (Primary POI: Woodring 345kV)
 Cluster Interconnection Costs: \$3,000,000**



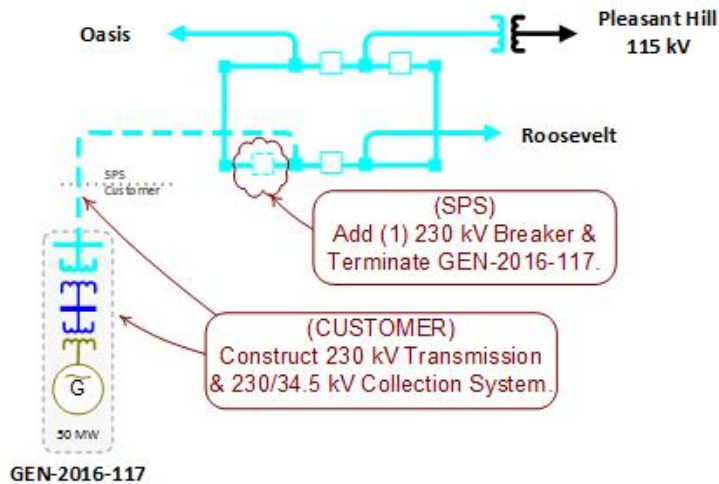
Interconnection Request: GEN-2016-107
(Primary POI: Tap Cederdale – Okeene 138kV)
Cluster Interconnection Costs: \$5,000,000





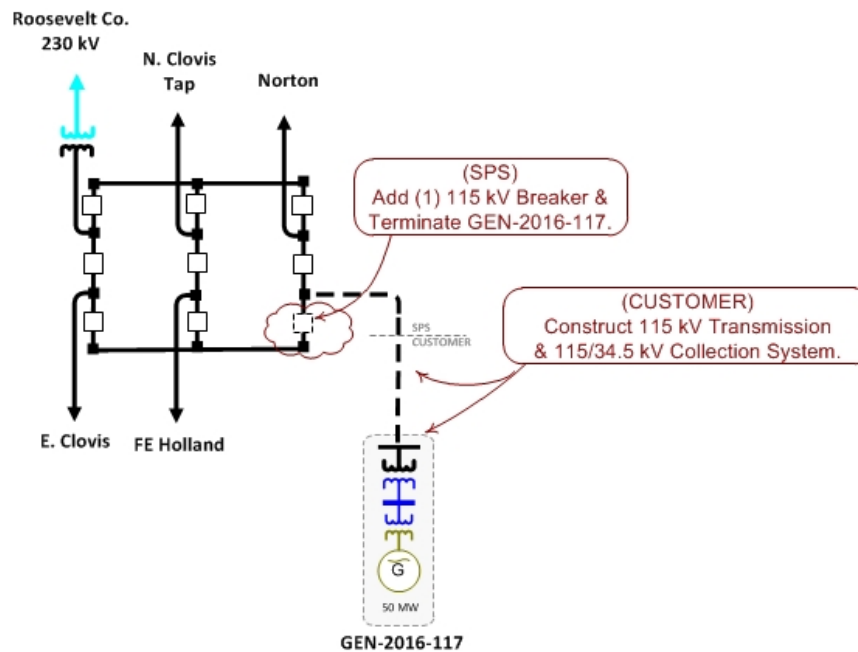
**Interconnection Request: GEN-2016-117
(Primary POI: Pleasant Hill 230kV)
Cluster Interconnection Costs: \$2,000,000**

Pleasant Hill 230 kV (SPS)

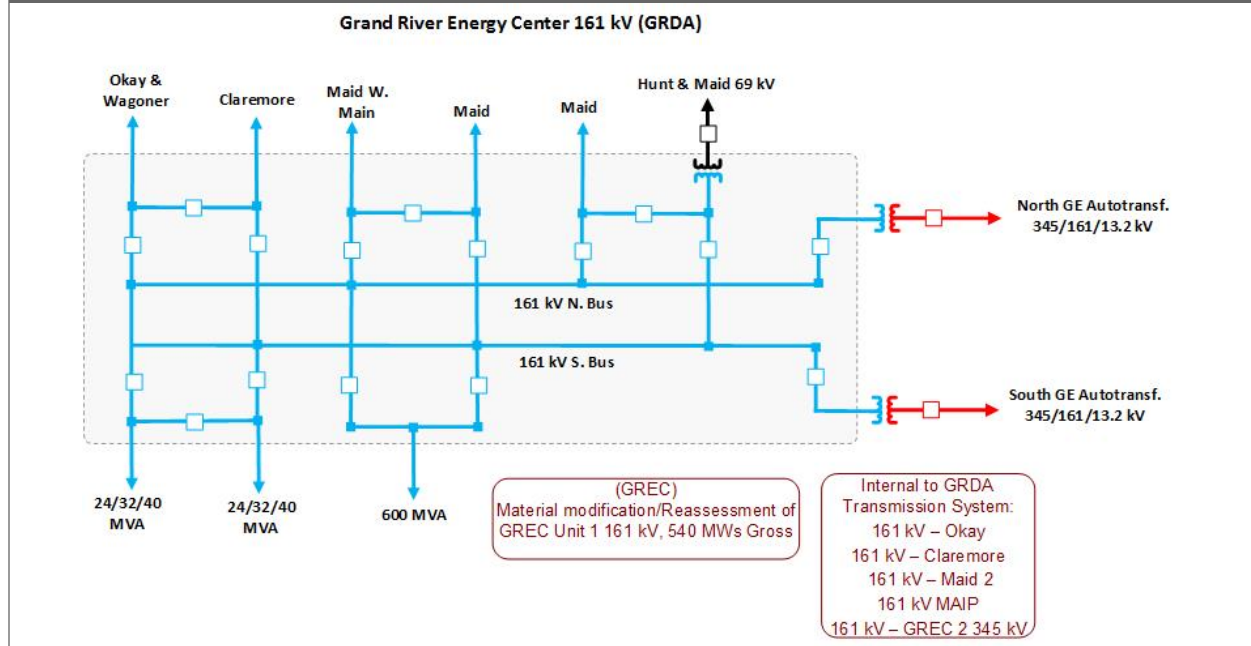


**Interconnection Request: GEN-2016-117
(Secondary POI: Pleasant Hill 115kV)
Cluster Interconnection Costs: \$1,500,000**

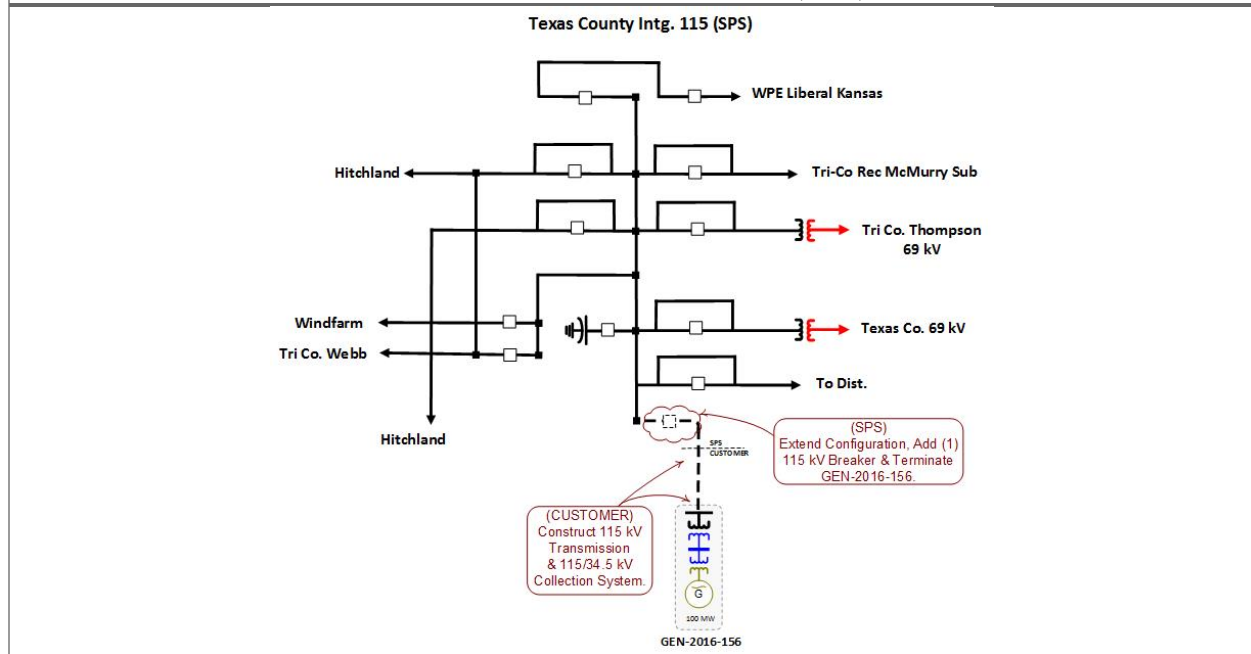
Pleasant Hill 115 (SPS)

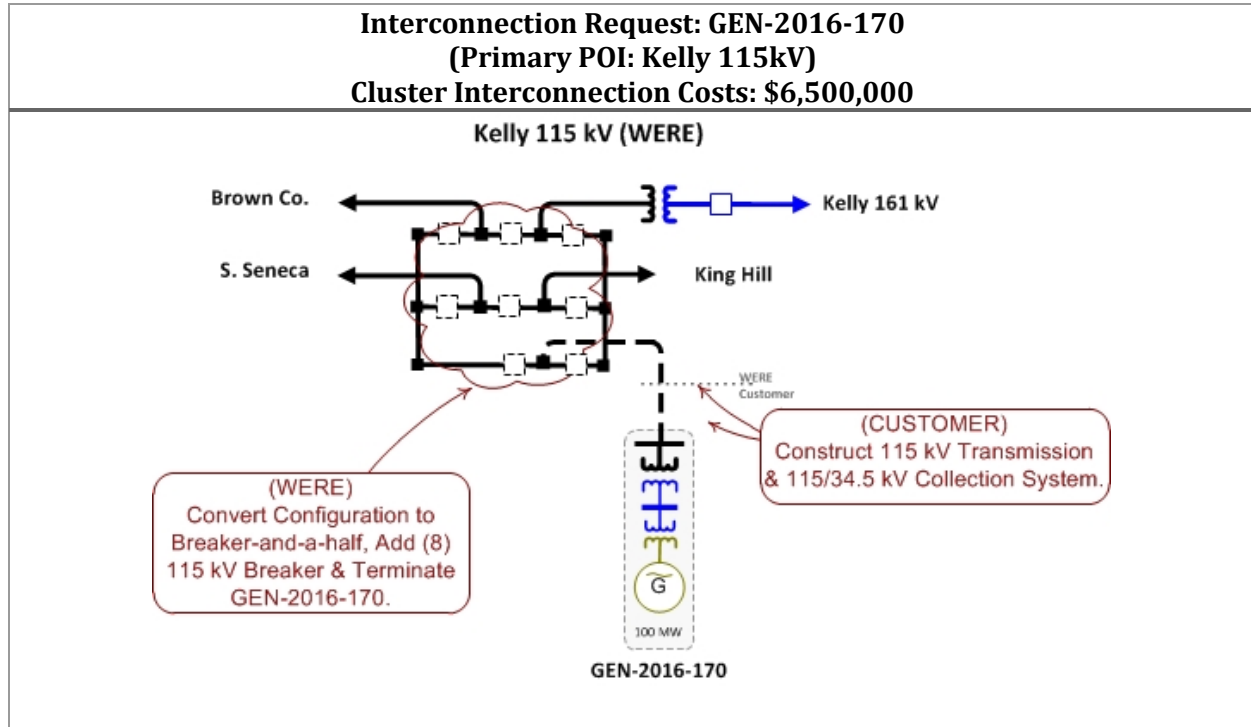


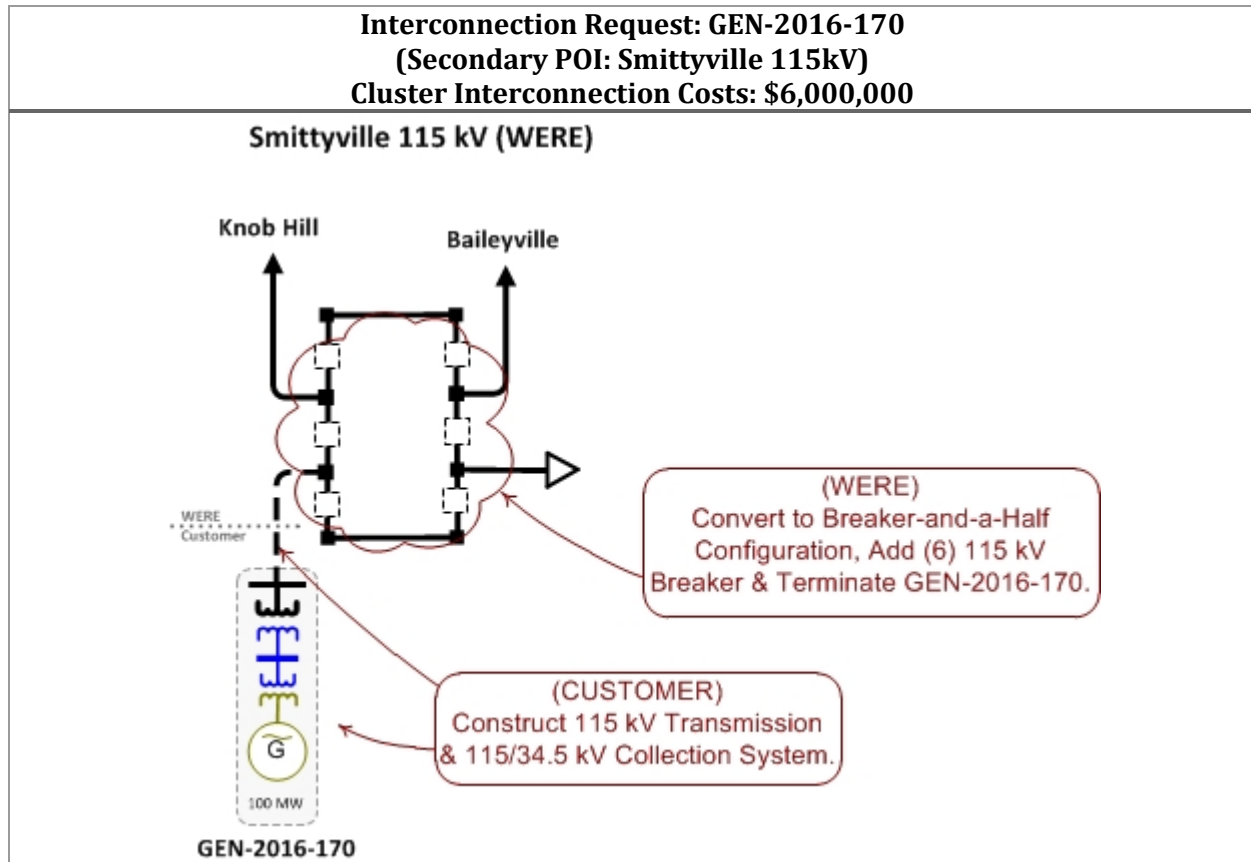
**Interconnection Request: GEN-2016-154
(Primary POI: GRDA 161kV)
Cluster Interconnection Costs: \$0**



**Interconnection Request: GEN-2016-156
(Primary POI: Texas County Substation 115kV)
Cluster Interconnection Costs: \$ 2,000,000**







*11.5 E: COST ALLOCATION PER INTERCONNECTION REQUEST (INCLUDING
PRIOR QUEUED UPGRADES)*

Appendix E. Cost Allocation Per Request Scenario #1

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-098			
GEN-2016-098 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Bearcat - Mooreland 138kV CKT 1 Replace Mooreland switch to at least 1200A	Previously Allocated		\$25,000
Bucker - Spearville 345V CKT 1 Replace Terminal equipment	Previously Allocated		\$1,480,238
Cleo Corner - Cleo Plant Tap 138kV CKT 1 Replace terminal equipment to at least 1200 amps	Previously Allocated		\$61,890
DeGrasse - Rose Valley 138kV CKT 1 NRIS only required upgrade: Replace terminal equipment and reconductor 1.3 miles of 138kV	Previously Allocated		\$1,800,000
Mathewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Mathewson - Cimarron @ 3000 amps per ITP10.	Previously Allocated		\$42,903,753
Mathewson - Northwest 345kV CKT 1 Replace wave trap and line switch	Previously Allocated		\$250,000
Northwest 138kV Circuit Breaker Replace Northwest 138kV Circuit Breaker for short circuit requirements	Previously Allocated		\$750,000
Tatonga - Mathewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Mathewson @ 3000 amps per ITP10.	Previously Allocated		\$104,260,473
Wichita 345/230/13kV Transformer CKT 1 NRIS only required upgrade: Replace existing Wichita transformer CKT 1 to 560/616 MVA	Previously Allocated		\$9,048,819
Wichita 345/230/13kV Transformer CKT 2 NRIS only required upgrade: Replace existing Wichita transformer CKT 2 to 560/616 MVA	Previously Allocated		\$9,048,819
	Current Study Total	\$3,000,000	

GEN-2016-107

DeGrasse - Mooreland 138kV CKT 1 Rebuild approximately 30 miles of 138kV.	Current Study	\$21,000,000	\$21,000,000
Dover Switch - Okeene 138kV CKT 1 Rebuild approximately 27 miles of 138kV.	Current Study	\$18,900,000	\$18,900,000

* 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-2016-107 Interconnection Costs See One-Line Diagram.	Current Study	\$5,000,000	\$5,000,000
GEN-2016-107 Tap - Cedardale 138kV CKT 1 Rebuild approximately 15 miles of 138kV.	Current Study	\$10,500,000	\$10,500,000
GEN-2016-107 Tap - Okeene 138kV CKT 1 Rebuild approximately 19 miles of 138kV.	Current Study	\$13,300,000	\$13,300,000
Okeene 138/69/13.8kV Transformer CKT 2 Build second 138/69/13kV transformer at Okeene.	Current Study	\$5,000,000	\$5,000,000
Bearcat - Mooreland 138kV CKT 1 Replace Mooreland switch to at least 1200A	Previously Allocated		\$25,000
Cleo Corner - Cleo Plant Tap 138kV CKT 1 Replace terminal equipment to at least 1200 amps	Previously Allocated		\$61,890
DeGrasse 345/138kV Project Per 2016 ITPNT: NTC 200391. DeGrasse 345kV Substation and 345/138kV transformer. (Total Project E&C Cost Shown)	Previously Allocated		\$30,500,000
Mathewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Mathewson - Cimarron @ 3000 amps per ITP10.	Previously Allocated		\$42,903,753
Mathewson - Northwest 345kV CKT 1 Replace wave trap and line switch	Previously Allocated		\$250,000
Northwest 138kV Circuit Breaker Replace Northwest 138kV Circuit Breaker for short circuit requirements	Previously Allocated		\$750,000
Tatonga - Mathewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Mathewson @ 3000 amps per ITP10.	Previously Allocated		\$104,260,473
Woodward 345/138/13kV Transformer CKT 3 Add Woodward 345/138/13kV Transformer circuit #3	Previously Allocated		\$9,634,457
Woodward EHV Phase Shifting Transformer CKT 1 Install one phase shifting transformer at Woodward	Previously Allocated		\$7,200,000
	Current Study Total	\$73,700,000	
TOTAL CURRENT STUDY COSTS:		\$76,700,000	

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

Appendix E. Cost Allocation Per Request Scenario #2

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-098			
DeGrasse - Mooreland 138kV CKT 1 Rebuild approximately 30 miles of 138kV.	Current Study	\$12,906,825	\$21,000,000
Dover Switch - Okeene 138kV CKT 1 Rebuild approximately 27 miles of 138kV.	Current Study	\$3,684,081	\$18,900,000
FPL Switch - Mooreland 138kV CKT 1 Rebuild approximately 0.2 miles of 138kV line	Current Study	\$750,000	\$750,000
FPL Switch - Woodward 138kV CKT 1 Rebuild approximately 12 miles of 138kV line	Current Study	\$8,500,000	\$8,500,000
GEN-2016-098 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
GEN-2016-107 Tap - Okeene 138kV CKT 1 Rebuild approximately 19 miles of 138kV.	Current Study	\$1,939,824	\$13,300,000
Woodward EHV - Woodward PST 138kV CKT 1 Rebuild approximately 4.4 miles of 138kV.	Current Study	\$2,599,828	\$3,200,000
Bearcat - Mooreland 138kV CKT 1 Replace Mooreland switch to at least 1200A	Previously Allocated		\$25,000
Cleo Corner - Cleo Plant Tap 138kV CKT 1 Replace terminal equipment to at least 1200 amps	Previously Allocated		\$61,890
DeGrasse - Rose Valley 138kV CKT 1 NRIS only required upgrade: Replace terminal equipment and reconductor 1.3 miles of 138kV	Previously Allocated		\$1,800,000
DeGrasse 345/138kV Project Per 2016 ITPNT: NTC 200391. DeGrasse 345kV Substation and 345/138kV transformer. (Total Project E&C Cost Shown)	Previously Allocated		\$30,500,000
Mathewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Mathewson - Cimarron @ 3000 amps per ITP10.	Previously Allocated		\$42,903,753
Mathewson - Northwest 345kV CKT 1 Replace wave trap and line switch	Previously Allocated		\$250,000
Northwest 138kV Circuit Breaker Replace Northwest 138kV Circuit Breaker for short circuit requirements	Previously Allocated		\$750,000

* 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
Tatonga - Mathewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Mathewson @ 3000 amps per ITP10.	Previously Allocated		\$104,260,473
Woodward 345/138/13kV Transformer CKT 3 Add Woodward 345/138/13kV Transformer circuit #3	Previously Allocated		\$9,634,457
Woodward EHV Phase Shifting Transformer CKT 1 Install one phase shifting transformer at Woodward	Previously Allocated		\$7,200,000
	Current Study Total	\$32,380,558	

GEN-2016-107

DeGrasse - Mooreland 138kV CKT 1 Rebuild approximately 30 miles of 138kV.	Current Study	\$8,093,175	\$21,000,000
Dover Switch - Okeene 138kV CKT 1 Rebuild approximately 27 miles of 138kV.	Current Study	\$15,215,919	\$18,900,000
GEN-2016-107 Interconnection Costs See One-Line Diagram.	Current Study	\$5,000,000	\$5,000,000
GEN-2016-107 Tap - Cedardale 138kV CKT 1 Rebuild approximately 15 miles of 138kV.	Current Study	\$10,500,000	\$10,500,000
GEN-2016-107 Tap - Okeene 138kV CKT 1 Rebuild approximately 19 miles of 138kV.	Current Study	\$11,360,176	\$13,300,000
Okeene 138/69/13.8kV Transformer CKT 2 Build second 138/69/13kV transformer at Okeene.	Current Study	\$5,000,000	\$5,000,000
Woodward EHV - Woodward PST 138kV CKT 1 Rebuild approximately 4.4 miles of 138kV.	Current Study	\$600,172	\$3,200,000
Bearcat - Mooreland 138kV CKT 1 Replace Mooreland switch to at least 1200A	Previously Allocated		\$25,000
Cleo Corner - Cleo Plant Tap 138kV CKT 1 Replace terminal equipment to at least 1200 amps	Previously Allocated		\$61,890
DeGrasse 345/138kV Project Per 2016 ITPNT: NTC 200391. DeGrasse 345kV Substation and 345/138kV transformer. (Total Project E&C Cost Shown)	Previously Allocated		\$30,500,000
Mathewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Mathewson - Cimarron @ 3000 amps per ITP10.	Previously Allocated		\$42,903,753
Mathewson - Northwest 345kV CKT 1 Replace wave trap and line switch	Previously Allocated		\$250,000

* 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
Northwest 138kV Circuit Breaker Replace Northwest 138kV Circuit Breaker for short circuit requirements	Previously Allocated		\$750,000
Tatonga - Mathewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Mathewson @ 3000 amps per ITP10.	Previously Allocated		\$104,260,473
Woodward 345/138/13kV Transformer CKT 3 Add Woodward 345/138/13kV Transformer circuit #3	Previously Allocated		\$9,634,457
Woodward EHV Phase Shifting Transformer CKT 1 Install one phase shifting transformer at Woodward	Previously Allocated		\$7,200,000
	Current Study Total		\$55,769,442
TOTAL CURRENT STUDY COSTS:			\$88,150,000

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

Appendix E. Cost Allocation Per Request Scenario #3

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-156			
GEN-2016-156 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Asarco Tap - Highland Park 115kV CKT 1 Replace terminal equipment	Previously Allocated		\$600,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Bushland - Potter County 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		\$250,000
Canyon East - Randall 115kV CKT 1 NRIS only required upgrade: Assigned in SPP-2011-AG3-AFS-11 per SPP-NTC-200369	Previously Allocated		\$12,806,065
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Cleo Corner - Cleo Plant Tap 138kV CKT 1 Replace terminal equipment to at least 1200 amps	Previously Allocated		\$61,890
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Harrington East - Potter County 230kV CKT 1 Upgrade terminal equipment per SPP-NTC-200395	Previously Allocated		\$914,347
Harrington West - Potter County 230kV CKT 1 Rebuild approximately 11 miles of 230kV	Previously Allocated		\$8,800,000
Highland Park Tap - Pantex South 115kV CKT 1 Upgrade terminal equipment	Previously Allocated		\$400,000

* 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
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Martin - Pantex North 115kV CKT 1 Upgrade terminal equipment	Previously Allocated		\$400,000
Mathewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Mathewson - Cimarron @ 3000 amps per ITP10.	Previously Allocated		\$42,903,753
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Stevens Co. 345 kV Substation Per SPP-NTC-200343 (Total Project E&C Cost Shown).	Previously Allocated		\$13,831,957
Tatonga - Mathewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Mathewson @ 3000 amps per ITP10.	Previously Allocated		\$104,260,473
Woodward - GEN-2011-051 Tap - Tatonga 345kV CKT 2 Build second 345kV circuit from Woodward - Tatonga @ 3000 amps per ITP10.	Previously Allocated		\$71,876,622
Woodward 345/138/13kV Transformer CKT 3 Add Woodward 345/138/13kV Transformer circuit #3	Previously Allocated		\$9,634,457
Woodward EHV Phase Shifting Transformer CKT 1 Install one phase shifting transformer at Woodward	Previously Allocated		\$7,200,000
	Current Study Total		\$2,000,000
TOTAL CURRENT STUDY COSTS:			\$2,000,000

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

Appendix E. Cost Allocation Per Request Scenario #4

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

* 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
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000

* 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
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$8,000,000	

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384

* 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
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000

* 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
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,000,000	
GEN-2016-099			
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$2,500,000	\$2,500,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

* 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
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000

* 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
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$2,500,000	

GEN-2016-117

GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770

* 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
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

* 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
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total	\$2,000,000	
TOTAL CURRENT STUDY COSTS:		\$15,500,000	

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Appendix E. Cost Allocation Per Request Scenario #5

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$522,484	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

* 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
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$8,522,484

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$449,996	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000

* 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
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500

* 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
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,449,996	
GEN-2016-099			
Deaf Smith - GEN-2015-039 Tap 230kV CKT 1 Replace terminal equipment	Current Study	\$500,000	\$500,000
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$802,521	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000

* 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
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

* 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
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000

* 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
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,302,521	

GEN-2016-117

GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$1,500,000	\$1,500,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$224,998	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000

* 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
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

* 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
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total		\$1,724,998
TOTAL CURRENT STUDY COSTS:			\$17,000,000

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Appendix E. Cost Allocation Per Request Scenario #6

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$520,843	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

* 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
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$8,520,843

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$448,582	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000

* 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
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approxiamately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500

* 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
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,448,582	

GEN-2016-099

Deaf Smith - GEN-2015-039 Tap 230kV CKT 1 Replace terminal equipment	Current Study	\$500,000	\$500,000
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$800,000	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000

* 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
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

* 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
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000

* 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
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,300,000	

GEN-2016-117

GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$230,575	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000

* 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
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

* 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
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total		\$2,230,575
TOTAL CURRENT STUDY COSTS:			\$17,500,000

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Appendix E. Cost Allocation Per Request Scenario #7

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$574,079	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000

* 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
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

* 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
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$8,574,079

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$494,433	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000

* 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
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approxamately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$3,494,433
GEN-2016-099			
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$684,272	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357

* 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
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000

* 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
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,684,272	

GEN-2016-117

GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$1,500,000	\$1,500,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$247,216	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total		\$1,747,216
TOTAL CURRENT STUDY COSTS:			\$17,500,000

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Appendix E. Cost Allocation Per Request Scenario #8

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000

* 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
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$8,000,000	

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000

* 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
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036

* 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 - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$3,000,000

GEN-2016-099

Deaf Smith - GEN-2015-039 Tap 230kV CKT 1 Replace terminal equipment	Current Study	\$500,000	\$500,000
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Oklunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$2,500,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-117			
GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$1,500,000	\$1,500,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total	\$1,500,000	
TOTAL CURRENT STUDY COSTS:		\$15,000,000	

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Appendix E. Cost Allocation Per Request Scenario #9

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$572,098	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

* 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
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$8,572,098

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$492,726	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000

* 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
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approxiamately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500

* 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
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$3,492,726
GEN-2016-099			
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$2,500,000	\$2,500,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$681,911	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,181,911	

GEN-2016-117

GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$253,265	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total		\$2,253,265
TOTAL CURRENT STUDY COSTS:			\$17,500,000

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Appendix E. Cost Allocation Per Request Scenario #10

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000

* 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
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$8,000,000	

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000

* 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
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

* 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
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036

* 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 - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,000,000	

GEN-2016-099

Deaf Smith - GEN-2015-039 Tap 230kV CKT 1 Replace terminal equipment	Current Study	\$500,000	\$500,000
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Oklunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$2,500,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-117			
GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total	\$2,000,000	
TOTAL CURRENT STUDY COSTS:		\$15,500,000	

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Appendix E. Cost Allocation Per Request Scenario #11

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$8,000,000	

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000

* 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
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

* 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
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036

* 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 - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,000,000	

GEN-2016-099

GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$2,500,000	\$2,500,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000

* 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
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$2,500,000

* 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-2016-117			
GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$1,500,000	\$1,500,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total	\$1,500,000	
TOTAL CURRENT STUDY COSTS:		\$15,000,000	

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Appendix E. Cost Allocation Per Request Scenario #12

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$714,647	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$8,714,647

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$593,882	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000

* 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
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approxiamately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500

* 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
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$3,593,882
GEN-2016-099			
BC- Kelly - Castro County 115kV CKT 1 NRIS only required upgrade: Rebuild approximately 10 miles of 115kV	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115/13.2kV Transformer CKT 1 Build Castro 345/115/13.2kV Tranformer circuit #1 at the new Castro 345kV substation.	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115/13.2kV Transformer CKT 2 Build Castro 345/115/13.2kV Tranformer circuit #2 at the new Castro 345kV substation.	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115kV Project Build a new Substation on the Tolk - Potter 345kV line.	Current Study	\$10,000,000	\$10,000,000
Deaf Smith #21 - Deaf Smith County Interchange 115kV CKT 1 Rebuild approximately 22 miles of 115kV from Deaf Smith #21 - Deaf Smith County Interchange.	Current Study	\$15,000,000	\$15,000,000
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$394,530	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approxiamately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000

* 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-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$57,394,530	

GEN-2016-117

GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$1,500,000	\$1,500,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$296,941	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000

* 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
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000

* 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
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total		\$1,796,941
TOTAL CURRENT STUDY COSTS:			\$71,500,000

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Appendix E. Cost Allocation Per Request Scenario #13

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$709,850	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$8,709,850

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$589,895	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000

* 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
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approxiamately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500

* 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
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$3,589,895
GEN-2016-099			
BC- Kelly - Castro County 115kV CKT 1 NRIS only required upgrade: Rebuild approximately 10 miles of 115kV	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115/13.2kV Transformer CKT 1 Build Castro 345/115/13.2kV Tranformer circuit #1 at the new Castro 345kV substation.	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115/13.2kV Transformer CKT 2 Build Castro 345/115/13.2kV Tranformer circuit #2 at the new Castro 345kV substation.	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115kV Project Build a new Substation on the Tolk - Potter 345kV line.	Current Study	\$10,000,000	\$10,000,000
Deaf Smith #21 - Deaf Smith County Interchange 115kV CKT 1 Rebuild approximately 22 miles of 115kV from Deaf Smith #21 - Deaf Smith County Interchange.	Current Study	\$15,000,000	\$15,000,000
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$391,881	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approxiamately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total		\$57,391,881

GEN-2016-117

GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Tolk Tap - Tolk West 230kV CKT 1 Build second bus tie at Tolk 230kV.	Current Study	\$308,374	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total		\$2,308,374
TOTAL CURRENT STUDY COSTS:			\$72,000,000

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Appendix E. Cost Allocation Per Request Scenario #14

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$8,000,000	

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

* 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
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,000,000	

GEN-2016-099

BC- Kelly - Castro County 115kV CKT 1 NRIS only required upgrade: Rebuild approximately 10 miles of 115kV	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115/13.2kV Transformer CKT 1 Build Castro 345/115/13.2kV Tranformer circuit #1 at the new Castro 345kV substation.	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115/13.2kV Transformer CKT 2 Build Castro 345/115/13.2kV Tranformer circuit #2 at the new Castro 345kV substation.	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115kV Project Build a new Substation on the Tolk - Potter 345kV line.	Current Study	\$10,000,000	\$10,000,000
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$42,000,000	
GEN-2016-117			
GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$1,500,000	\$1,500,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total		\$1,500,000
TOTAL CURRENT STUDY COSTS:			\$54,500,000

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Appendix E. Cost Allocation Per Request Scenario #15

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-089			
GEN-2016-089 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approxiamately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauion	Previously Allocated		\$20,000,000
Oklauion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000

* 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
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$8,000,000	

GEN-2016-090

GEN-2016-090 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000

* 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
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Sundown 230/115/13.2KV Transformer CKT 2 NRIS only required upgrade: Build second Sundown 230/115 Transformer	Previously Allocated		\$6,000,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 between Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$3,000,000	

GEN-2016-099

BC- Kelly - Castro County 115kV CKT 1 NRIS only required upgrade: Rebuild approximately 10 miles of 115kV	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115/13.2kV Transformer CKT 1 Build Castro 345/115/13.2kV Tranformer circuit #1 at the new Castro 345kV substation.	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115/13.2kV Transformer CKT 2 Build Castro 345/115/13.2kV Tranformer circuit #2 at the new Castro 345kV substation.	Current Study	\$8,000,000	\$8,000,000
Castro County 345/115kV Project Build a new Substation on the Tolk - Potter 345kV line.	Current Study	\$10,000,000	\$10,000,000
GEN-2016-099 Interconnection Costs See One-Line Diagram.	Current Study	\$8,000,000	\$8,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chaves County - Price - CV Pines - Capitan 115kV CKT 1 NRIS only required upgrade: Per HPILs SPP-NTC-200256 (Total Project E&C Cost Shown)	Previously Allocated		\$14,275,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Drinkard - Drinkard Tap 115kV CKT 1 Rebuild approximately 2 miles from Drinkard to Drinkard Tap	Previously Allocated		\$1,500,000
Drinkard Tap - Weest Hobbs 115kV CKT 1 Rebuild approximately 12.5 miles from Drinkard Tap to West Hobbs	Previously Allocated		\$9,375,000
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Lubbock Holly 230/69/13kV CKT 2 NRIS only required upgrade: Install second Lubbock Holly 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklaunion	Previously Allocated		\$20,000,000
Oklaunion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potash Junction 230/115 kV Ckt 1 Per HPILs SPP-NTC-200282 (Total Project E&C Cost Shown)	Previously Allocated		\$3,508,346
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Seminole 765/345kV Transformer CKT 1 & 2 Install two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
TUCO 230/115kV CKT 1 Transformer NRIS only required upgrade: Replace TUCO 230/115kV transformer per SPP-2012-AG3-AFS9 SPP-NTC-200297	Previously Allocated		\$3,800,415
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
TUCO Interchange - Jones 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
Wadsworth 230/69/13kV CKT 2 NRIS only required upgrade: Install second Wadsworth 230/69/13kV Transformer	Previously Allocated		\$4,000,000
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Wolfforth - Sundown 230kV CKT 1 NRIS only required upgrade: Replace line traps at both terminals	Previously Allocated		\$400,000
	Current Study Total	\$42,000,000	
GEN-2016-117			
GEN-2016-117 Interconnection Costs See One-Line Diagram.	Current Study	\$2,000,000	\$2,000,000
Beaver County - Clark County 345kV CKT 1 Build approximately 125 miles of new 345kV from Beaver County - Clark County	Previously Allocated		\$150,000,000
Beaver County - Grapevine 345kV CKT 1 Build approximately 75 miles of new 345kV from Beaver County - Grapevine	Previously Allocated		\$95,000,000
Beaver County 345kV Reactive Power Support Install +100Mvar SVC at Beaver County Substation.	Previously Allocated		\$26,264,770
Border - Chisholm 345kV CKT 2 Build approximately 25 miles of second circuit 345kV from Border - Chisholm	Previously Allocated		\$25,000,000
Border 345kV Reactive Power Support Install (6)Steps of 50Mvar Capacitor Bank(s) and +300Mvar SVC at Border Substation	Previously Allocated		\$32,633,384
Chisholm - Gracemont 345kV CKT 1 Per SPP-NTC-200255 and 200240 (Total Project E&C Cost Shown)	Previously Allocated		\$162,952,357
Chisholm Substation Upgrade 345kV Expand planned Chisholm Substation to tap and terminate Woodward - Border 345kV into the Chisholm Substation	Previously Allocated		\$12,000,000
Crawfish Draw - Border 345kV CKT 2 Build approximately 194 miles of second circuit 345kV from TUCO 2 - Border	Previously Allocated		\$194,000,000
Crawfish Draw - Seminole 765kV CKT 1 Build approximately 325 miles of 765kV from Crawfish Draw to Seminole	Previously Allocated		\$975,000,000
Crawfish Draw - TUCO 345kV CKT 2 Build second 345kV from TUCO - Crawfish Draw	Previously Allocated		\$3,000,000
Crawfish Draw - Yoakum 345kV Retermination Incremental Upgrade for SPP-NTC-200283 to reterminate TUCO terminal to TUCO 2 terminal by adding approximately 3 miles of 345kV	Previously Allocated		\$5,000,000
Crawfish Draw 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Crawfish Draw	Previously Allocated		\$30,000,000
Crawfish Draw 765kV Substation Expansion Expand the planned Crawfish Draw 345kV Substation for new 765kV switchyard	Previously Allocated		\$40,000,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Crawfish Draw Substation Upgrade 345/230kV Tap Border-TUCO approximately 2 miles from TUCO and build Crawfish Draw 345kV substation and add 345/230/13.2kV transformer and tie on TUCO-Swisher 230kV.	Previously Allocated		\$24,764,205
Elk City 230/138/13kV Transformer CKT 1 Replace terminal equipment for Elk City Transformer to achieve transformer limit of 450MVA.	Previously Allocated		\$15,000,000
GEN-2014-074 Tap 345kV Reactive Power Support Intall +300Mvar SVC at GEN-2014-074 Tap	Previously Allocated		\$25,000,000
Grapevine - Chisholm 345kV CKT 1 Build approximately 75 miles of new 345kV from Grapevine - Chisholm	Previously Allocated		\$106,737,500
Grapevine - Nichols 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine - Wheeler 230kV CKT 1 Replace terminal equipment	Previously Allocated		\$400,000
Grapevine Substation Upgrade 345kV Build Grapevine Substation and terminate Beaver Co - Grapevine, Potter Co - Grapevine, Grapevine - Chisholm 345kV into the Grapevine Substation	Previously Allocated		\$12,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #1 Install +/-100Mvar SVC at Oklauinion	Previously Allocated		\$20,000,000
Oklauinion 345kV Reactive Power Support Incremental Upgrade #2 Increase 100Mvar SVC to 300Mvars and install 200Mvars of additional Capacitor Bank(s)	Previously Allocated		\$40,000,000
Potter County - Grapevine 345kV CKT 1 Build approximately 65 miles of new 345kV from Potter County - Grapevine	Previously Allocated		\$88,172,500
Potter County Interchange 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Potter County	Previously Allocated		\$15,000,000
Seminole 765/345kV Transformer CKT 1 & 2 Intsall two 765/345kV transformers at Seminole	Previously Allocated		\$30,000,000
Seminole 765kV Substation Expansion Expand the existing Seminole Substation for new 765kV switchyard	Previously Allocated		\$40,000,000
Shamrock 115kV Capacitor Bank Add 2nd step of 9.6Mvars to Shamrock 115kV Capacitor Bank(s)	Previously Allocated		\$500,000
Tolk - Crawfish Draw 345kV CKT 1 Build approximately 64 miles of 345kV from Tolk - Crawfish Draw.	Previously Allocated		\$88,170,000
Tolk - Plant X 230kV CKT 1 & 2 Rebuild circuit 1 and 2 betweek Tolk - Plant X 230kV to 1200 amps each.	Previously Allocated		\$9,921,693

* 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
Tolk - Potter County 345kV CKT 1 Build approximately 115 miles of 345kV from Tolk - Potter County	Previously Allocated		\$156,000,000
Tolk 345/230/13kV Transformer CKT 2 Build second 345/230/13kV transformer at Tolk	Previously Allocated		\$15,000,000
TUCO 345/230/13.2kV Transformer CKT 1 Replace existing TUCO 345/230/13.2kV Transformer circuit #1 with 640MVA.	Previously Allocated		\$3,347,036
Wheeler - Sweetwater 230kV CKT 1 Rebuild AEP's portion of the circuit and replace terminal equipment on SPS portion	Previously Allocated		\$6,000,000
	Current Study Total		\$2,000,000
TOTAL CURRENT STUDY COSTS:			\$55,000,000

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Appendix E. Cost Allocation Per Request

Scenario #16

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-104			
GEN-2015-063 Tap - Mathewson 345kV CKT 1 Rebuild approximately 20 miles of 345kV from GEN-2016-063 Tap - Mathewson.	Current Study	\$22,000,000	\$22,000,000
GEN-2015-063 Tap - Woodring 345kV CKT 1 Rebuild approximately 20 miles of 345kV from GEN-2016-063 Tap - Woodring.	Current Study	\$22,000,000	\$22,000,000
GEN-2016-104 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Altoona - Bulter 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 70.6 miles of 138kV	Previously Allocated		\$74,810,342
Arkansas City - Paris 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 1.7 miles of 69kV.	Previously Allocated		\$1,700,000
Caney River - Neosho 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$500,000
City of Winfield - Rainbow 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 4 miles of 69kV.	Previously Allocated		\$4,000,000
Clearwater - Viola 138kV CKT 1 SPP 2013 ITP NT assigneg upgrade per SPP-NTC-200288 for 6/1/2019 in-service.	Previously Allocated		\$35,992,903
Cleveland - Cleveland 138kV CKT Z1 NRIS only rquired upgrade: Replace bus tie breaker with a three breaker ring	Previously Allocated		\$1,200,000
Cleveland - Silver City 138kV CKT 1 AECI Affected System Study is required	Previously Allocated		\$790,900
Cleveland - Tulsa 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$500,000
Cleveland 345/138/13kV Transformer CKT 2 NRIS only required upgrade: Install second 345/138kV Transformer	Previously Allocated		\$5,100,000
Creswell - Oak 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 5.2 miles of 69kV.	Previously Allocated		\$5,200,000
Creswell - Paris 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 5.7 miles of 69kV.	Previously Allocated		\$5,700,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Creswell 138/69/13.2kV Transformer CKT 1 NRIS only required upgrade: Build new 138/69/13.2kV transformer at Creswell circuit #1.	Previously Allocated		\$3,500,000
Creswell 138/69/13.2kV Transformer CKT 2 NRIS only required upgrade: Build new 138/69/13.2kV transformer at Creswell circuit #2.	Previously Allocated		\$3,500,000
Emporia Energy Center - Swissvale 345kV CKT 1 Replace terminal equipment to at least 1600 amps (Cost included in Swissvale - West Gardner 345kV Line Item)	Previously Allocated		\$0
Fairfax 138/69kV CKT 1 Per AECL Affected System Study for DISIS-2012-002	Previously Allocated		\$2,200,000
Fairfax Tap - Shidler 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 2.4 miles of 138kV	Previously Allocated		\$3,250,000
Farber - Belle Plains 138kV CKT 1 Rebuild approximately 10.3 miles of 138kV from Farber to Belle Plains	Previously Allocated		\$9,000,000
GEN-2015-063 Tap - Mathewson 345kV CKT 1 Replace terminal equipment to achieve conductor limit	Previously Allocated		\$4,715,335
GEN-2016-012 Tap - LaCygne 345kV CKT 1 Rebuild approximately 31 miles of 345kV from GEN-2016-012 Tap - LaCygne	Previously Allocated		\$31,600,000
GEN-2016-012 Tap - Waverly Tap 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$500,000
Kildare - White Eagle 138kV CKT 1 Rebuild approximately 11 miles of 138kV from Kildare to White Eagle	Previously Allocated		\$2,805,000
Kinze - McElroy 138kV CKT 1 Rebuild approximately 2 miles of 138kV from Kinze to McElroy	Previously Allocated		\$600,000
Kinze - Stillwater 138kV CKT 1 NRIS only required upgrade: Replace terminal equipment	Previously Allocated		\$100,000
Neosho - Riverton 161kV CKT 1 Rebuild approximately 28 miles of 161kV	Previously Allocated		\$23,000,000
Northwest - Spring Creek 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$1,000,000
Northwest 138kV Circuit Breaker Replace Northwest 138kV Circuit Breaker for short circuit requirements	Previously Allocated		\$750,000
Oak - Rainbow 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 5.1 miles of 69kV.	Previously Allocated		\$5,100,000

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Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Osage - Webb Tap 138kV CKT 1 Rebuild approximately 22 miles of 138kV from Osage to Webb City	Previously Allocated		\$10,545,000
Osage - White Eagle 138kV CKT 1 Rebuild approximately 3 miles of 138kV from Osage to White Eagle	Previously Allocated		\$50,000
Remington - Fairfax 138KV CKT 1 Increase conductor clearance	Previously Allocated		\$400,000
Renfrow - Renfrow 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 2 miles of 138kV from Renfrow to Renfrow.	Previously Allocated		\$1,400,000
Swissvale - West Gardner 345kV CKT 1 Replace terminal equipment to at least 1600 amps	Previously Allocated		\$1,000,000
Viola 345/138 kV Transformer CKT 1 SPP 2013 ITP NT assigned upgrade per SPP-NTC-200288 for 6/1/2019 in-service.	Previously Allocated		\$19,339,327
Viola 345/138/13kV Transformer CKT 2 Build second 345/138/13.8kV transformer at Viola	Previously Allocated		\$9,000,000
Webb City Tap - Fairfax Tap 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 0.3 miles of 138kV. Costs included in Fairfax Tap - Shilder Upgrade	Previously Allocated		\$0
Wolf Creek - Neosho 345kV CKT 1 Build approximately 95 miles of new 345kV	Previously Allocated		\$117,126,900
	Current Study Total	\$47,000,000	
GEN-2016-107			
GEN-2016-107 Interconnection Costs See One-Line Diagram.	Current Study	\$5,000,000	\$5,000,000
Cleveland - Tulsa 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$500,000
	Current Study Total	\$5,000,000	
GEN-2016-154			
GEN-2016-154 Interconnection Costs See One-Line Diagram.	Current Study	\$0	\$0
	Current Study Total	\$0	
TOTAL CURRENT STUDY COSTS:		\$52,000,000	

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

Appendix E. Cost Allocation Per Request Scenario #17

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-093			
GEN-2016-093 Interconnection Costs See One-Line Diagram.	Current Study	\$1,500,000	\$1,500,000
Banner County - Keystone 345kV CKT 1 Build approximately 140 of new 345kV from Banner County to Keystone	Previously Allocated		\$175,000,000
Battle Creek-County Line 115kV CKT 1 Rebuild approximately 11 miles of 115kV from Battle Creek to County Line.	Previously Allocated		\$4,000,000
County Line-Neligh East 115kV CKT 1 Rebuild approximately 12 miles of 115kV from County Line to Neligh East.	Previously Allocated		\$8,050,000
Gentleman - Thedford 345kV CKT 1 Build approximately 76 Miles of 345kV from Gentleman to Thedford per SPP-NTC-200220 (Total Project E&C Cost Shown).	Previously Allocated		\$311,717,040
Hoskins - Neligh 345/115kV Projects Per SPP 2014 ITP NT and NTC 200253 for 6/1/2016 in-service.	Previously Allocated		\$98,697,720
Keystone - Gentleman 345kV CKT 2 Build approximately 30 miles of new 345kV	Previously Allocated		\$37,500,000
Knoll - Post Rock 230kV CKT 2 Build second 230kV circuit between Knoll - Post Rock	Previously Allocated		\$3,306,000
Meadow Grove - Kelly 230kV CKT 1 Upgrade conductor clearance to 100°C for 478MVA rating	Previously Allocated		\$3,600,000
Thedford - Holt County 345kV CKT 1 Build approximately 146 Miles of 345kV from Thedford to Holt County per SPP-NTC-200220 (Total Project E&C Cost Shown).	Previously Allocated		\$311,717,040
Twin Church - Dixon County 230kV Increase conductor clearances to accommodate 320MVA facility rating	Previously Allocated		\$100,000
	Current Study Total	\$1,500,000	

GEN-2016-109

Baileyville - Seneca 115kV CKT 1 Rebuild 6 miles of 115kV from Baileyville - Seneca.	Current Study	\$798,989	\$5,100,000
Baileyville - Smittyville 115kV CKT 1 Rebuild 8 miles of 115kV from Baileyville - Smittyville.	Current Study	\$1,065,318	\$6,800,000

* 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
Carlton Junction - North Hebron 115kV CKT 1 Rebuild approximately 10 miles of 115kV from Carlton Junction - North Hebron.	Current Study	\$7,194,911	\$7,194,911
Circleville - King Hill 115kV CKT 1 Rebuild approximately 15 miles of 115kV from Circleville - King Hill.	Current Study	\$3,111,714	\$12,835,000
Clifton - Concordia 115kV CKT 1 Rebuild approximately 23.4 miles of 115kV from Clifton - Concordia.	Current Study	\$5,608,909	\$17,550,000
GEN-2015-087 Tap - North Hebron 115kV CKT 1 Rebuild approximately 5 miles of 115kV from GEN-2015-087 Tap - North Hebron.	Current Study	\$3,603,194	\$3,603,194
GEN-2016-109 Interconnection Costs See One-Line Diagram.	Current Study	\$4,000,000	\$4,000,000
Kelly - King Hill 115kV CKT 1 Rebuild approximately 9.6 miles of 115kV from Kelly - King Hill.	Current Study	\$1,978,308	\$8,160,000
Fairbury - GEN-2015-087 Tap 115kV CKT 1 NRIS only required upgrade: Rebuild approximately 17 miles of 115kV	Previously Allocated		\$12,250,000
Fairbury - Harbine 115kV CKT 1 NRIS only required upgrade: Rebuild approximately 10 miles of 115kV	Previously Allocated		\$7,000,000
Gavins Point - Yankton Junction 115kV CKT 1 Rebuild approximately 5 miles of 115kV from Gavins to Yankton	Previously Allocated		\$5,000,000
Harbine - Beatrice 115kV CKT 1 Rebuild approximately 14 miles of 115kV line	Previously Allocated		\$9,800,000
Knoll - Post Rock 230kV CKT 2 Build second 230kV circuit between Knoll - Post Rock	Previously Allocated		\$3,306,000
Pauline - Rosemont 115kV CKT 1 Rebuild approximately 10.6 miles of 115kV	Previously Allocated		\$7,000,000
Pauline - Rosemont 115kV CKT 2 Build approximately 10.6 miles of second circuit 115kV	Previously Allocated		\$7,000,000
Twin Church - Dixon County 230kV Increase conductor clearances to accommodate 320MVA facility rating	Previously Allocated		\$100,000
	Current Study Total	\$27,361,343	

GEN-2016-170

Baileyville - Seneca 115kV CKT 1 Rebuild 6 miles of 115kV from Baileyville - Seneca.	Current Study	\$4,301,011	\$5,100,000
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* 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
Baileyville - Smittyville 115kV CKT 1 Rebuild 8 miles of 115kV from Baileyville - Smittyville.	Current Study	\$5,734,682	\$6,800,000
Circleville - King Hill 115kV CKT 1 Rebuild approximately 15 miles of 115kV from Circleville - King Hill.	Current Study	\$9,723,286	\$12,835,000
Clifton - Concordia 115kV CKT 1 Rebuild approximately 23.4 miles of 115kV from Clifton - Concordia.	Current Study	\$11,941,091	\$17,550,000
GEN-2016-170 Interconnection Costs See One-Line Diagram.	Current Study	\$6,000,000	\$6,000,000
Hoyt - Hoyt Junction South 115kV CKT 1 Rebuild approximately 1 mile of 115kV from Hoyt - Hoyt Junction.	Current Study	\$799,000	\$799,000
Indianola - Northland 115kV CKT 1 Rebuild approximately 3.4 miles of 115kV from Indianola - Northland.	Current Study	\$2,941,000	\$2,941,000
Kelly - King Hill 115kV CKT 1 Rebuild approximately 9.6 miles of 115kV from Kelly - King Hill.	Current Study	\$6,181,692	\$8,160,000
Kelly - Tecumseh 161kV CKT 1 Rebuild approximately 52.6 miles of 161kV from Kelly - Tecumseh.	Current Study	\$48,692,000	\$48,692,000
Marshall - Knob Hill 115kV CKT 1 Rebuild approximately 14 miles of 115kV from Marshall - Knob Hill.	Current Study	\$12,078,500	\$12,078,500
Marshall - Smittyville 115kV CKT 1 Rebuild approximately 2 miles of 115kV from Marshall - Smittyville.	Current Study	\$1,844,500	\$1,844,500
Gavins Point - Yankton Junction 115kV CKT 1 Rebuild approximately 5 miles of 115kV from Gavins to Yankton	Previously Allocated		\$5,000,000
Grand Island - Grand Praire 345kV CKT 1 NRIS only required upgrade: terminal equipment and conductor clearance increase	Previously Allocated		\$1,000,000
Harbine - Beatrice 115kV CKT 1 Rebuild approximately 14 miles of 115kV line	Previously Allocated		\$9,800,000
Pauline - Rosemont 115kV CKT 1 Rebuild approximately 10.6 miles of 115kV	Previously Allocated		\$7,000,000
Pauline - Rosemont 115kV CKT 2 Build approximately 10.6 miles of second circuit 115kV	Previously Allocated		\$7,000,000
Twin Church - Dixon County 230kV Increase conductor clearances to accommodate 320MVA facility rating	Previously Allocated		\$100,000
	Current Study Total	\$110,236,762	

* 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:		\$139,098,105	

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

Appendix E. Cost Allocation Per Request Scenario #18

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-170			
GEN-2016-170 Interconnection Costs See One-Line Diagram.	Current Study	\$6,000,000	\$6,000,000
	Current Study Total	\$6,000,000	
TOTAL CURRENT STUDY COSTS:		\$6,000,000	

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

Appendix E. Cost Allocation Per Request Scenario #19

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2016-104			
GEN-2016-104 Interconnection Costs See One-Line Diagram.	Current Study	\$3,000,000	\$3,000,000
Altoona - Bulter 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 70.6 miles of 138kV	Previously Allocated		\$74,810,342
Arkansas City - Paris 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 1.7 miles of 69kV.	Previously Allocated		\$1,700,000
Caney River - Neosho 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$500,000
City of Winfield - Rainbow 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 4 miles of 69kV.	Previously Allocated		\$4,000,000
Clearwater - Viola 138kV CKT 1 SPP 2013 ITP NT assigneg upgrade per SPP-NTC-200288 for 6/1/2019 in-service.	Previously Allocated		\$35,992,903
Cleveland - Cleveland 138kV CKT Z1 NRIS only rquired upgrade: Replace bus tie breaker with a three breaker ring	Previously Allocated		\$1,200,000
Cleveland - Silver City 138kV CKT 1 AECI Affected System Study is required	Previously Allocated		\$790,900
Cleveland - Tulsa 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$500,000
Cleveland 345/138/13kV Transformer CKT 2 NRIS only required upgrade: Install second 345/138kV Transformer	Previously Allocated		\$5,100,000
Creswell - Oak 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 5.2 miles of 69kV.	Previously Allocated		\$5,200,000
Creswell - Paris 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 5.7 miles of 69kV.	Previously Allocated		\$5,700,000
Creswell 138/69/13.2kV Transformer CKT 1 NRIS only required upgrade: Build new 138/69/13.2kV transformer at Creswell circuit #1.	Previously Allocated		\$3,500,000
Creswell 138/69/13.2kV Transformer CKT 2 NRIS only required upgrade: Build new 138/69/13.2kV transformer at Creswell circuit #2.	Previously Allocated		\$3,500,000

* 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
Emporia Energy Center - Swissvale 345kV CKT 1 Replace terminal equipment to at least 1600 amps (Cost included in Swissvale - West Gardner 345kV Line Item)	Previously Allocated		\$0
Fairfax 138/69kV CKT 1 Per AECl Affected System Study for DISIS-2012-002	Previously Allocated		\$2,200,000
Fairfax Tap - Shidler 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 2.4 miles of 138kV	Previously Allocated		\$3,250,000
Farber - Belle Plains 138kV CKT 1 Rebuild approximately 10.3 miles of 138kV from Farber to Belle Plains	Previously Allocated		\$9,000,000
GEN-2016-012 Tap - LaCygne 345kV CKT 1 Rebuild approximately 31 miles of 345kV from GEN-2016-012 Tap - LaCyne	Previously Allocated		\$31,600,000
GEN-2016-012 Tap - Waverly Tap 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$500,000
Kildare - White Eagle 138kV CKT 1 Rebuild approximately 11 miles of 138kV from Kildare to White Eagle	Previously Allocated		\$2,805,000
Kinze - McElroy 138kV CKT 1 Rebuild approximately 2 miles of 138kV from Kinze to McElroy	Previously Allocated		\$600,000
Kinze - Stillwater 138kV CKT 1 NRIS only required upgrade: Replace terminal equipment	Previously Allocated		\$100,000
Neosho - Riverton 161kV CKT 1 Rebuild approximately 28 miles of 161kV	Previously Allocated		\$23,000,000
Northwest - Spring Creek 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$1,000,000
Northwest 138kV Circuit Breaker Replace Northwest 138kV Circuit Breaker for short circuit requirements	Previously Allocated		\$750,000
Oak - Rainbow 69kV CKT 1 NRIS only required upgrade: Rebuild approximately 5.1 miles of 69kV.	Previously Allocated		\$5,100,000
Osage - Webb Tap 138kV CKT 1 Rebuild approximately 22 miles of 138kV from Osage to Webb City	Previously Allocated		\$10,545,000
Osage - White Eagle 138kV CKT 1 Rebuild approximately 3 miles of 138kV from Osage to White Eagle	Previously Allocated		\$50,000
Remington - Fairfax 138kV CKT 1 Increase conductor clearance	Previously Allocated		\$400,000

* 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
Renfrow - Renfrow 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 2 miles of 138kV from Renfrow to Renfrow.	Previously Allocated		\$1,400,000
Swissvale - West Gardner 345kV CKT 1 Replace terminal equipment to at least 1600 amps	Previously Allocated		\$1,000,000
Viola 345/138 kV Transformer CKT 1 SPP 2013 ITP NT assigned upgrade per SPP-NTC-200288 for 6/1/2019 in-service.	Previously Allocated		\$19,339,327
Viola 345/138/13kV Transformer CKT 2 Build second 345/138/13.8kV transformer at Viola	Previously Allocated		\$9,000,000
Webb City Tap - Fairfax Tap 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 0.3 miles of 138kV. Costs included in Fairfax Tap - Shilder Upgrade	Previously Allocated		\$0
Wolf Creek - Neosho 345kV CKT 1 Build approximately 95 miles of new 345kV	Previously Allocated		\$117,126,900
	Current Study Total	\$3,000,000	
GEN-2016-107			
GEN-2016-107 Interconnection Costs See One-Line Diagram.	Current Study	\$5,000,000	\$5,000,000
Cleveland - Tulsa 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$500,000
	Current Study Total	\$5,000,000	
GEN-2016-154			
GEN-2016-154 Interconnection Costs See One-Line Diagram.	Current Study	\$0	\$0
Cleveland - Silver City 138kV CKT 1 AECI Affected System Study is required	Previously Allocated		\$790,900
Emporia Energy Center - Swissvale 345kV CKT 1 Replace terminal equipment to at least 1600 amps (Cost included in Swissvale - West Gardner 345kV Line Item)	Previously Allocated		\$0
GEN-2016-012 Tap - LaCygne 345kV CKT 1 Rebuild approximately 31 miles of 345kV from GEN-2016-012 Tap - LaCyne	Previously Allocated		\$31,600,000
GEN-2016-012 Tap - Waverly Tap 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$500,000
Northwest - Spring Creek 345kV CKT 1 Replace terminal equipment	Previously Allocated		\$1,000,000

* 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
Northwest 138kV Circuit Breaker Replace Northwest 138kV Circuit Breaker for short circuit requirements	Previously Allocated		\$750,000
Viola - Sumner County 138kV CKT 1 SPP 2014 ITP NT assigned upgrade per SPP-NTC-200296 for 6/1/2019 in-service.	Previously Allocated		\$51,513,963
	Current Study Total		\$0
TOTAL CURRENT STUDY COSTS:			\$8,000,000

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

11.6 F: COST ALLOCATION PER PROPOSED STUDY NETWORK UPGRADE

Appendix F. Cost Allocation by Upgrade Scenario #1

DeGrasse - Mooreland 138kV CKT 1		\$21,000,000
Rebuild approximately 30 miles of 138kV.		
	GEN-2016-107	\$21,000,000
	Total Allocated Costs	\$21,000,000
<hr/>		
Dover Switch - Okeene 138kV CKT 1		\$18,900,000
Rebuild approximately 27 miles of 138kV.		
	GEN-2016-107	\$18,900,000
	Total Allocated Costs	\$18,900,000
<hr/>		
GEN-2016-107 Tap - Cedardale 138kV CKT 1		\$10,500,000
Rebuild approximately 15 miles of 138kV.		
	GEN-2016-107	\$10,500,000
	Total Allocated Costs	\$10,500,000
<hr/>		
GEN-2016-107 Tap - Okeene 138kV CKT 1		\$13,300,000
Rebuild approximately 19 miles of 138kV.		
	GEN-2016-107	\$13,300,000
	Total Allocated Costs	\$13,300,000
<hr/>		
GEN-2016-098 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-098	\$3,000,000
	Total Allocated Costs	\$3,000,000
<hr/>		
GEN-2016-107 Interconnection Costs		\$5,000,000
See One-Line Diagram.		
	GEN-2016-107	\$5,000,000
	Total Allocated Costs	\$5,000,000
<hr/>		
Okeene 138/69/13.8kV Transformer CKT 2		\$5,000,000
Build second 138/69/13kV transformer at Okeene.		
	GEN-2016-107	\$5,000,000
	Total Allocated Costs	\$5,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #2

DeGrasse - Mooreland 138kV CKT 1		\$21,000,000
Rebuild approximately 30 miles of 138kV.		
	GEN-2016-098	\$12,906,825
	GEN-2016-107	\$8,093,175
	Total Allocated Costs	\$21,000,000
Dover Switch - Okeene 138kV CKT 1		\$18,900,000
Rebuild approximately 27 miles of 138kV.		
	GEN-2016-098	\$3,684,081
	GEN-2016-107	\$15,215,919
	Total Allocated Costs	\$18,900,000
FPL Switch - Mooreland 138kV CKT 1		\$750,000
Rebuild approximately 0.2 miles of 138kV line		
	GEN-2016-098	\$750,000
	Total Allocated Costs	\$750,000
FPL Switch - Woodward 138kV CKT 1		\$8,500,000
Rebuild approximately 12 miles of 138kV line		
	GEN-2016-098	\$8,500,000
	Total Allocated Costs	\$8,500,000
GEN-2016-107 Tap - Cedardale 138kV CKT 1		\$10,500,000
Rebuild approximately 15 miles of 138kV.		
	GEN-2016-107	\$10,500,000
	Total Allocated Costs	\$10,500,000
GEN-2016-107 Tap - Okeene 138kV CKT 1		\$13,300,000
Rebuild approximately 19 miles of 138kV.		
	GEN-2016-098	\$1,939,824
	GEN-2016-107	\$11,360,176
	Total Allocated Costs	\$13,300,000

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

GEN-2016-098 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-098	\$2,000,000
	Total Allocated Costs	\$2,000,000
GEN-2016-107 Interconnection Costs		\$5,000,000
See One-Line Diagram.		
	GEN-2016-107	\$5,000,000
	Total Allocated Costs	\$5,000,000
Okeene 138/69/13.8kV Transformer CKT 2		\$5,000,000
Build second 138/69/13kV transformer at Okeene.		
	GEN-2016-107	\$5,000,000
	Total Allocated Costs	\$5,000,000
Woodward EHV - Woodward PST 138kV CKT 1		\$3,200,000
Rebuild approximately 4.4 miles of 138kV.		
	GEN-2016-098	\$2,599,828
	GEN-2016-107	\$600,172
	Total Allocated Costs	\$3,200,000

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

Appendix F. Cost Allocation by Upgrade Scenario #3

GEN-2016-156 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-156	\$2,000,000
	Total Allocated Costs	\$2,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #4

GEN-2016-089 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
GEN-2016-090 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-099 Interconnection Costs		\$2,500,000
See One-Line Diagram.		
	GEN-2016-099	\$2,500,000
	Total Allocated Costs	\$2,500,000
GEN-2016-117 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-117	\$2,000,000
	Total Allocated Costs	\$2,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #5

Deaf Smith - GEN-2015-039 Tap 230kV CKT 1		\$500,000
Replace terminal equipment		
	GEN-2016-099	\$500,000
	Total Allocated Costs	\$500,000
GEN-2016-089 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
GEN-2016-090 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-099 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-099	\$2,000,000
	Total Allocated Costs	\$2,000,000
GEN-2016-117 Interconnection Costs		\$1,500,000
See One-Line Diagram.		
	GEN-2016-117	\$1,500,000
	Total Allocated Costs	\$1,500,000
Tolk Tap - Tolk West 230kV CKT 1		\$2,000,000
Build second bus tie at Tolk 230kV.		
	GEN-2016-089	\$522,484
	GEN-2016-090	\$449,996
	GEN-2016-099	\$802,521
	GEN-2016-117	\$224,998
	Total Allocated Costs	\$2,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #6

Deaf Smith - GEN-2015-039 Tap 230kV CKT 1		\$500,000
Replace terminal equipment		
	GEN-2016-099	\$500,000
	Total Allocated Costs	\$500,000
GEN-2016-089 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
GEN-2016-090 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-099 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-099	\$2,000,000
	Total Allocated Costs	\$2,000,000
GEN-2016-117 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-117	\$2,000,000
	Total Allocated Costs	\$2,000,000
Tolk Tap - Tolk West 230kV CKT 1		\$2,000,000
Build second bus tie at Tolk 230kV.		
	GEN-2016-089	\$520,843
	GEN-2016-090	\$448,582
	GEN-2016-099	\$800,000
	GEN-2016-117	\$230,575
	Total Allocated Costs	\$2,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #7

GEN-2016-089 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
GEN-2016-090 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-099 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-099	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-117 Interconnection Costs		\$1,500,000
See One-Line Diagram.		
	GEN-2016-117	\$1,500,000
	Total Allocated Costs	\$1,500,000
Tolk Tap - Tolk West 230kV CKT 1		\$2,000,000
Build second bus tie at Tolk 230kV.		
	GEN-2016-089	\$574,079
	GEN-2016-090	\$494,433
	GEN-2016-099	\$684,272
	GEN-2016-117	\$247,216
	Total Allocated Costs	\$2,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #8

Deaf Smith - GEN-2015-039 Tap 230kV CKT 1		\$500,000
Replace terminal equipment		
	GEN-2016-099	\$500,000
	Total Allocated Costs	\$500,000
GEN-2016-089 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
GEN-2016-090 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-099 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-099	\$2,000,000
	Total Allocated Costs	\$2,000,000
GEN-2016-117 Interconnection Costs		\$1,500,000
See One-Line Diagram.		
	GEN-2016-117	\$1,500,000
	Total Allocated Costs	\$1,500,000

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

Appendix F. Cost Allocation by Upgrade Scenario #9

GEN-2016-089 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
GEN-2016-090 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-099 Interconnection Costs		\$2,500,000
See One-Line Diagram.		
	GEN-2016-099	\$2,500,000
	Total Allocated Costs	\$2,500,000
GEN-2016-117 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-117	\$2,000,000
	Total Allocated Costs	\$2,000,000
Tolk Tap - Tolk West 230kV CKT 1		\$2,000,000
Build second bus tie at Tolk 230kV.		
	GEN-2016-089	\$572,098
	GEN-2016-090	\$492,726
	GEN-2016-099	\$681,911
	GEN-2016-117	\$253,265
	Total Allocated Costs	\$2,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #10

Deaf Smith - GEN-2015-039 Tap 230kV CKT 1		\$500,000
Replace terminal equipment		
	GEN-2016-099	\$500,000
	Total Allocated Costs	\$500,000
GEN-2016-089 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
GEN-2016-090 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-099 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-099	\$2,000,000
	Total Allocated Costs	\$2,000,000
GEN-2016-117 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-117	\$2,000,000
	Total Allocated Costs	\$2,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #11

GEN-2016-089 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
GEN-2016-090 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-099 Interconnection Costs		\$2,500,000
See One-Line Diagram.		
	GEN-2016-099	\$2,500,000
	Total Allocated Costs	\$2,500,000
GEN-2016-117 Interconnection Costs		\$1,500,000
See One-Line Diagram.		
	GEN-2016-117	\$1,500,000
	Total Allocated Costs	\$1,500,000

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

Appendix F. Cost Allocation by Upgrade Scenario #12

BC- Kelly - Castro County 115kV CKT 1		\$8,000,000
	NRIS only required upgrade: Rebuild approximately 10 miles of 115kV	
	GEN-2016-099	\$8,000,000
	Total Allocated Costs	\$8,000,000
<hr/>		
Castro County 345/115/13.2kV Transformer CKT 1		\$8,000,000
	Build Castro 345/115/13.2kV Transformer circuit #1 at the new Castro 345kV substation.	
	GEN-2016-099	\$8,000,000
	Total Allocated Costs	\$8,000,000
<hr/>		
Castro County 345/115/13.2kV Transformer CKT 2		\$8,000,000
	Build Castro 345/115/13.2kV Transformer circuit #2 at the new Castro 345kV substation.	
	GEN-2016-099	\$8,000,000
	Total Allocated Costs	\$8,000,000
<hr/>		
Castro County 345/115kV Project		\$10,000,000
	Build a new Substation on the Tolk - Potter 345kV line.	
	GEN-2016-099	\$10,000,000
	Total Allocated Costs	\$10,000,000
<hr/>		
Deaf Smith #21 - Deaf Smith County Interchange 115kV CKT 1		\$15,000,000
	Rebuild approximately 22 miles of 115kV from Deaf Smith #21 - Deaf Smith County Interchange.	
	GEN-2016-099	\$15,000,000
	Total Allocated Costs	\$15,000,000
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GEN-2016-089 Interconnection Costs		\$8,000,000
	See One-Line Diagram.	
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
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GEN-2016-090 Interconnection Costs		\$3,000,000
	See One-Line Diagram.	
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000

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

GEN-2016-099 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-099	\$8,000,000
	Total Allocated Costs	\$8,000,000
GEN-2016-117 Interconnection Costs		\$1,500,000
See One-Line Diagram.		
	GEN-2016-117	\$1,500,000
	Total Allocated Costs	\$1,500,000
Tolk Tap - Tolk West 230kV CKT 1		\$2,000,000
Build second bus tie at Tolk 230kV.		
	GEN-2016-089	\$714,647
	GEN-2016-090	\$593,882
	GEN-2016-099	\$394,530
	GEN-2016-117	\$296,941
	Total Allocated Costs	\$2,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #13

BC- Kelly - Castro County 115kV CKT 1		\$8,000,000
	NRIS only required upgrade: Rebuild approximately 10 miles of 115kV	
	GEN-2016-099	\$8,000,000
	Total Allocated Costs	\$8,000,000
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Castro County 345/115/13.2kV Transformer CKT 1		\$8,000,000
	Build Castro 345/115/13.2kV Transformer circuit #1 at the new Castro 345kV substation.	
	GEN-2016-099	\$8,000,000
	Total Allocated Costs	\$8,000,000
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Castro County 345/115/13.2kV Transformer CKT 2		\$8,000,000
	Build Castro 345/115/13.2kV Transformer circuit #2 at the new Castro 345kV substation.	
	GEN-2016-099	\$8,000,000
	Total Allocated Costs	\$8,000,000
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Castro County 345/115kV Project		\$10,000,000
	Build a new Substation on the Tolk - Potter 345kV line.	
	GEN-2016-099	\$10,000,000
	Total Allocated Costs	\$10,000,000
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Deaf Smith #21 - Deaf Smith County Interchange 115kV CKT 1		\$15,000,000
	Rebuild approximately 22 miles of 115kV from Deaf Smith #21 - Deaf Smith County Interchange.	
	GEN-2016-099	\$15,000,000
	Total Allocated Costs	\$15,000,000
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GEN-2016-089 Interconnection Costs		\$8,000,000
	See One-Line Diagram.	
	GEN-2016-089	\$8,000,000
	Total Allocated Costs	\$8,000,000
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GEN-2016-090 Interconnection Costs		\$3,000,000
	See One-Line Diagram.	
	GEN-2016-090	\$3,000,000
	Total Allocated Costs	\$3,000,000
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* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

GEN-2016-099 Interconnection Costs		\$8,000,000
See One-Line Diagram.		
	GEN-2016-099	\$8,000,000
	Total Allocated Costs	\$8,000,000
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GEN-2016-117 Interconnection Costs		\$2,000,000
See One-Line Diagram.		
	GEN-2016-117	\$2,000,000
	Total Allocated Costs	\$2,000,000
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Tolk Tap - Tolk West 230kV CKT 1		\$2,000,000
Build second bus tie at Tolk 230kV.		
	GEN-2016-089	\$709,850
	GEN-2016-090	\$589,895
	GEN-2016-099	\$391,881
	GEN-2016-117	\$308,374
	Total Allocated Costs	\$2,000,000
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* Withdrawal of higher queued projects will cause a restudy and may result in higher costs

Appendix F. Cost Allocation by Upgrade Scenario #14

BC- Kelly - Castro County 115kV CKT 1			\$8,000,000
NRIS only required upgrade: Rebuild approximately 10 miles of 115kV			
	GEN-2016-099		\$8,000,000
	Total Allocated Costs		\$8,000,000
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Castro County 345/115/13.2kV Transformer CKT 1			\$8,000,000
Build Castro 345/115/13.2kV Transformer circuit #1 at the new Castro 345kV substation.			
	GEN-2016-099		\$8,000,000
	Total Allocated Costs		\$8,000,000
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Castro County 345/115/13.2kV Transformer CKT 2			\$8,000,000
Build Castro 345/115/13.2kV Transformer circuit #2 at the new Castro 345kV substation.			
	GEN-2016-099		\$8,000,000
	Total Allocated Costs		\$8,000,000
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Castro County 345/115kV Project			\$10,000,000
Build a new Substation on the Tolk - Potter 345kV line.			
	GEN-2016-099		\$10,000,000
	Total Allocated Costs		\$10,000,000
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GEN-2016-089 Interconnection Costs			\$8,000,000
See One-Line Diagram.			
	GEN-2016-089		\$8,000,000
	Total Allocated Costs		\$8,000,000
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GEN-2016-090 Interconnection Costs			\$3,000,000
See One-Line Diagram.			
	GEN-2016-090		\$3,000,000
	Total Allocated Costs		\$3,000,000
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GEN-2016-099 Interconnection Costs			\$8,000,000
See One-Line Diagram.			
	GEN-2016-099		\$8,000,000
	Total Allocated Costs		\$8,000,000

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

GEN-2016-117 Interconnection Costs

\$1,500,000

See One-Line Diagram.

GEN-2016-117

\$1,500,000

Total Allocated Costs

\$1,500,000

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

Appendix F. Cost Allocation by Upgrade Scenario #15

BC- Kelly - Castro County 115kV CKT 1			\$8,000,000
NRIS only required upgrade: Rebuild approximately 10 miles of 115kV			
	GEN-2016-099		\$8,000,000
	Total Allocated Costs		\$8,000,000
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Castro County 345/115/13.2kV Transformer CKT 1			\$8,000,000
Build Castro 345/115/13.2kV Transformer circuit #1 at the new Castro 345kV substation.			
	GEN-2016-099		\$8,000,000
	Total Allocated Costs		\$8,000,000
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Castro County 345/115/13.2kV Transformer CKT 2			\$8,000,000
Build Castro 345/115/13.2kV Transformer circuit #2 at the new Castro 345kV substation.			
	GEN-2016-099		\$8,000,000
	Total Allocated Costs		\$8,000,000
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Castro County 345/115kV Project			\$10,000,000
Build a new Substation on the Tolk - Potter 345kV line.			
	GEN-2016-099		\$10,000,000
	Total Allocated Costs		\$10,000,000
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GEN-2016-089 Interconnection Costs			\$8,000,000
See One-Line Diagram.			
	GEN-2016-089		\$8,000,000
	Total Allocated Costs		\$8,000,000
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GEN-2016-090 Interconnection Costs			\$3,000,000
See One-Line Diagram.			
	GEN-2016-090		\$3,000,000
	Total Allocated Costs		\$3,000,000
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GEN-2016-099 Interconnection Costs			\$8,000,000
See One-Line Diagram.			
	GEN-2016-099		\$8,000,000
	Total Allocated Costs		\$8,000,000

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

GEN-2016-117 Interconnection Costs

\$2,000,000

See One-Line Diagram.

GEN-2016-117

\$2,000,000

Total Allocated Costs

\$2,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #17

Baileyville - Seneca 115kV CKT 1		\$5,100,000
Rebuild 6 miles of 115kV from Baileyville - Seneca.		
GEN-2016-109	\$798,989	
GEN-2016-170	\$4,301,011	
Total Allocated Costs	\$5,100,000	
Baileyville - Smittyville 115kV CKT 1		\$6,800,000
Rebuild 8 miles of 115kV from Baileyville - Smittyville.		
GEN-2016-109	\$1,065,318	
GEN-2016-170	\$5,734,682	
Total Allocated Costs	\$6,800,000	
Carlton Junction - North Hebron 115kV CKT 1		\$7,194,911
Rebuild approximately 10 miles of 115kV from Carlton Junction - North Hebron.		
GEN-2016-109	\$7,194,911	
Total Allocated Costs	\$7,194,911	
Circleville - King Hill 115kV CKT 1		\$12,835,000
Rebuild approximately 15 miles of 115kV from Circleville - King Hill.		
GEN-2016-109	\$3,111,714	
GEN-2016-170	\$9,723,286	
Total Allocated Costs	\$12,835,000	
Clifton - Concordia 115kV CKT 1		\$17,550,000
Rebuild approximately 23.4 miles of 115kV from Clifton - Concordia.		
GEN-2016-109	\$5,608,909	
GEN-2016-170	\$11,941,091	
Total Allocated Costs	\$17,550,000	
GEN-2015-087 Tap - North Hebron 115kV CKT 1		\$3,603,194
Rebuild approximately 5 miles of 115kV from GEN-2015-087 Tap - North Hebron.		
GEN-2016-109	\$3,603,194	
Total Allocated Costs	\$3,603,194	

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

GEN-2016-093 Interconnection Costs		\$1,500,000
See One-Line Diagram.		
	GEN-2016-093	\$1,500,000
	Total Allocated Costs	\$1,500,000
GEN-2016-109 Interconnection Costs		\$4,000,000
See One-Line Diagram.		
	GEN-2016-109	\$4,000,000
	Total Allocated Costs	\$4,000,000
GEN-2016-170 Interconnection Costs		\$6,000,000
See One-Line Diagram.		
	GEN-2016-170	\$6,000,000
	Total Allocated Costs	\$6,000,000
Hoyt - Hoyt Junction South 115kV CKT 1		\$799,000
Rebuild approximately 1 mile of 115kV from Hoyt - Hoyt Junction.		
	GEN-2016-170	\$799,000
	Total Allocated Costs	\$799,000
Indianola - Northland 115kV CKT 1		\$2,941,000
Rebuild approximately 3.4 miles of 115kV from Indianola - Northland.		
	GEN-2016-170	\$2,941,000
	Total Allocated Costs	\$2,941,000
Kelly - King Hill 115kV CKT 1		\$8,160,000
Rebuild approximately 9.6 miles of 115kV from Kelly - King Hill.		
	GEN-2016-109	\$1,978,308
	GEN-2016-170	\$6,181,692
	Total Allocated Costs	\$8,160,000
Kelly - Tecumseh 161kV CKT 1		\$48,692,000
Rebuild approximately 52.6 miles of 161kV from Kelly - Tecumseh.		
	GEN-2016-170	\$48,692,000
	Total Allocated Costs	\$48,692,000
Marshall - Knob Hill 115kV CKT 1		\$12,078,500
Rebuild approximately 14 miles of 115kV from Marshall - Knob Hill.		
	GEN-2016-170	\$12,078,500
	Total Allocated Costs	\$12,078,500

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

Marshall - Smittyville 115kV CKT 1

\$1,844,500

Rebuild approximately 2 miles of 115kV from Marshall - Smittyville.

GEN-2016-170

\$1,844,500

Total Allocated Costs

\$1,844,500

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

Appendix F. Cost Allocation by Upgrade Scenario #18

GEN-2016-170 Interconnection Costs		\$6,000,000
See One-Line Diagram.		
	GEN-2016-170	\$6,000,000
	Total Allocated Costs	\$6,000,000

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

Appendix F. Cost Allocation by Upgrade Scenario #19

GEN-2016-104 Interconnection Costs		\$3,000,000
See One-Line Diagram.		
	GEN-2016-104	\$3,000,000
	Total Allocated Costs	\$3,000,000
GEN-2016-107 Interconnection Costs		\$5,000,000
See One-Line Diagram.		
	GEN-2016-107	\$5,000,000
	Total Allocated Costs	\$5,000,000
GEN-2016-154 Interconnection Costs		\$0
See One-Line Diagram.		
	GEN-2016-154	\$0
	Total Allocated Costs	\$0

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

11.7 G: POWER FLOW ANALYSIS (CONSTRAINTS REQUIRING TRANSMISSION REINFORCEMENT)

Scenario Number	Scenario Description	Group Name
Scenario #1	Group 1 HVER	01ALL_1
	Group 1 NRIS	01NR_1, 00NR_1
Scenario #2	Group 1 HVER	01ALL_2
	Group 1 NRIS	01NR_2, 00NR_2
Scenario #3	Group 2 HVER	01ALL_3
	Group 2 NRIS	02NR_3, 00NR_3
Scenario #4	Group 6 HVER	06ALL_4
	Group 6 NRIS	06NR_4, 00NR_4
Scenario #5	Group 6 HVER	06ALL_5
	Group 6 NRIS	06NR_5, 00NR_5
Scenario #6	Group 6 HVER	06ALL_6
	Group 6 NRIS	06NR_6, 00NR_6
Scenario #7	Group 6 HVER	06ALL_7
	Group 6 NRIS	06NR_7, 00NR_7
Scenario #8	Group 6 HVER	06ALL_8
	Group 6 NRIS	06NR_8, 00NR_8
Scenario #9	Group 6 HVER	06ALL_9
	Group 6 NRIS	06NR_9, 00NR_9
Scenario #10	Group 6 HVER	06ALL_10
	Group 6 NRIS	06NR_10, 00NR_10
Scenario #11	Group 6 HVER	06ALL_11
	Group 6 NRIS	06NR_11, 00NR_11
Scenario #12	Group 6 HVER	06ALL_12
	Group 6 NRIS	06NR_12, 00NR_12
Scenario #13	Group 6 HVER	06ALL_13
	Group 6 NRIS	06NR_13, 00NR_13
Scenario #14	Group 6 HVER	06ALL_14
	Group 6 NRIS	06NR_14, 00NR_14
Scenario #15	Group 6 HVER	06ALL_15
	Group 6 NRIS	06NR_15, 00NR_15
Scenario #16	Group 8 HVER	08ALL_16
	Group 8 NRIS	08NR_16, 00NR_16
Scenario #17	Group 9 HVER	09ALL_17
	Group 9 NRIS	09NR_17, 00NR_17
Scenario #18	Group 13 HVER	13ALL_18
	Group 13 NRIS	13NR_18, 00NR_18
Scenario #19	Group 8 LVER	00_19

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
00NR_12	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2911	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_13	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2911	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_07	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2798	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_07	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2798	P12:230:LPL:K26.1.JONES.LP-HOLLY
00NR_07	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2798	P13:069-230:LPL:LP-COOK.1
00NR_09	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2798	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_09	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2798	P12:230:LPL:K26.1.JONES.LP-HOLLY
00NR_09	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2798	P13:069-230:LPL:LP-COOK.1
00NR_07	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.277	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_09	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.277	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_05	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2676	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_05	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2676	P12:230:LPL:K26.1.JONES.LP-HOLLY
00NR_05	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2676	P13:069-230:LPL:LP-COOK.1
00NR_06	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2676	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_06	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2676	P12:230:LPL:K26.1.JONES.LP-HOLLY
00NR_06	0	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03023	100.2676	P13:069-230:LPL:LP-COOK.1
00NR_05	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2649	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_06	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2649	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_12	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2463	P12:230:LPL:K26.1.JONES.LP-HOLLY
00NR_13	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2463	P12:230:LPL:K26.1.JONES.LP-HOLLY
00NR_07	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2322	P12:230:LPL:K26.1.JONES.LP-HOLLY
00NR_09	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2322	P12:230:LPL:K26.1.JONES.LP-HOLLY
00NR_05	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2201	P12:230:LPL:K26.1.JONES.LP-HOLLY
00NR_06	2	25SP	FROM->TO	G16_089S	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2201	P12:230:LPL:K26.1.JONES.LP-HOLLY
06NR_12	0	17G	FROM->TO	G16_090	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.03307	102.7759	P12:230:SPS:K11.1.BSHLND.DFSMTH
06NR_13	0	17G	FROM->TO	G16_090	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.03307	102.7759	P12:230:SPS:K11.1.BSHLND.DFSMTH
06NR_14	0	17G	FROM->TO	G16_090	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.03307	102.7702	P12:230:SPS:K11.1.BSHLND.DFSMTH
06NR_15	0	17G	FROM->TO	G16_090	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.03307	102.7702	P12:230:SPS:K11.1.BSHLND.DFSMTH
06ALL_9	0	17SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	607.5	0.26673	100.7939	P12:230:SPS:K27.1.PLANTX.TOLK
06ALL_7	0	17SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	607.5	0.26673	100.6348	P12:230:SPS:K27.1.PLANTX.TOLK
06ALL_6	0	17SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	474.9	0.19907	100.4746	System Intact
06ALL_5	0	17SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	474.9	0.19907	100.4367	System Intact
06ALL_6	0	17SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	607.5	0.26673	100.2822	P12:230:SPS:K27.1.PLANTX.TOLK
06ALL_5	0	17SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	607.5	0.26673	100.1232	P12:230:SPS:K27.1.PLANTX.TOLK
06ALL_13	0	17SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	474.9	0.19907	100.0266	System Intact
06ALL_6	0	20SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	0.20863	100.5075	System Intact
06ALL_5	0	20SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	0.20863	100.4981	System Intact
06ALL_13	0	20SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	0.20863	100.1517	System Intact
06ALL_12	0	20SP	TO->FROM	G16_090	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	0.20863	100.1422	System Intact
00NR_12	0	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02973	105.6564	P13:115-230:SPS:SUNDOWN.1
00NR_12	0	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02973	105.6564	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_13	0	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02973	105.6564	P13:115-230:SPS:SUNDOWN.1
00NR_13	0	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02973	105.6564	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_14	0	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02973	105.6532	P13:115-230:SPS:SUNDOWN.1
00NR_14	0	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02973	105.6532	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_15	0	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02973	105.6532	P13:115-230:SPS:SUNDOWN.1
00NR_15	0	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02973	105.6532	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_12	2	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02948	105.4284	P13:115-230:SPS:SUNDOWN.1
00NR_12	2	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02948	105.4284	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_13	2	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02948	105.4284	P13:115-230:SPS:SUNDOWN.1
00NR_13	2	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02948	105.4284	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_14	2	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02948	105.422	P13:115-230:SPS:SUNDOWN.1
00NR_14	2	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02948	105.422	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_15	2	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02948	105.422	P13:115-230:SPS:SUNDOWN.1
00NR_15	2	25SP	TO->FROM	G16_090	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.02948	105.422	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
00NR_06	0	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03024	100.2676	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_06	0	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03024	100.2676	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_06	0	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03024	100.2676	P13:069-230:LPL:LP-COOK.1
00NR_08	0	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03024	100.2676	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_08	0	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03024	100.2676	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_08	0	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03024	100.2676	P13:069-230:LPL:LP-COOK.1
00NR_10	0	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03024	100.2676	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_10	0	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03024	100.2676	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_10	0	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03024	100.2676	P13:069-230:LPL:LP-COOK.1
00NR_05	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2649	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_06	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2649	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_08	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2649	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_10	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2649	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_12	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2463	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_13	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2463	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_14	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2463	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_15	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2463	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_04	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2322	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_07	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2322	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_09	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2322	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_11	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2322	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_05	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2201	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_06	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2201	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_08	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2201	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_10	2	25SP	FROM->TO	G16_090	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03023	100.2201	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_1	0	20SP	FROM->TO	G16_098P	WICHITA (WICH TX-12) 345/138/13.8KV TRANSFORMER CKT 1	422.7	0.02929	101.7801	BENTON - WICHITA 345KV CKT 1
00NR_1	2	20SP	FROM->TO	G16_098P	WICHITA (WICH TX-12) 345/138/13.8KV TRANSFORMER CKT 1	422.7	0.02916	101.6524	BENTON - WICHITA 345KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_098P	WICHITA (WICH TX-12) 345/138/13.8KV TRANSFORMER CKT 1	427.5	0.02929	100.4736	BENTON - WICHITA 345KV CKT 1
00NR_1	2	20SP	FROM->TO	G16_098P	WICHITA (WICH TX-12) 345/138/13.8KV TRANSFORMER CKT 1	427.5	0.02916	100.3706	BENTON - WICHITA 345KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.30939	142.6307	WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.30939	142.6307	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.9	0.1285	121.4726	System Intact
01ALL_2	0	16WP	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	145.7	0.05683	110.574	System Intact
01ALL_2	0	16WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81627	123.4981	WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81627	123.4981	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	16WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81614	123.4139	WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	16WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81614	123.4139	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.8	0.8159	122.9946	WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.8	0.8159	122.9946	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	16WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.81614	137.7447	WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	16WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.81614	137.7447	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	184.8	0.81627	137.5915	WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	184.8	0.81627	137.5915	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	2	16WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.8159	137.3236	WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	2	16WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.8159	137.3236	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
00NR_2	0	16WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	184.9	0.81596	109.3477	WOODWARD - WWPAR4 138.00 138KV CKT 1
00NR_2	0	16WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	184.9	0.81596	109.3477	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.05783	146.5971	System Intact
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.12727	139.0967	WOODWARD - WWPAR4 138.00 138KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.12727	139.0967	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06901	131.9476	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.07106	131.6726	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06901	131.6663	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06901	131.385	IMO TAP - MEN TAP 138KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.07106	131.321	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06308	129.9156		CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06869	129.8073		BEARCAT 138.00 - MOORELAND 138KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06869	129.8073		P12:138:WFEC:MSL14
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06869	129.315		BEARCAT 138.00 - NINE MILE 138KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06266	128.8622		G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06571	128.7757		CANTON - TALOGA 69KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06162	128.6582		ALVA - CHEROKEE SW 69KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06571	127.7911		CANTON - OKEENE 69KV CKT 1
00NR_2	0	16WP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06175	124.4054		System Intact
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.56641	131.1133		G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.59902	130.9101		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.80683	130.5643		FPL SWITCH - MOORELAND 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.56395	128.6687		CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.56395	128.4018		CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.56395	127.9346		IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.57235	126.0768		BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.57235	126.0434		P12:138:WFEC:MSL14
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.57235	125.3094		BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.82151	125.2003		FPL SWITCH - MOORELAND 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.56258	124.0202		DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.57235	123.8079		MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.57821	121.6011		DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.54932	121.2302		WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.62268	120.9753		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.54932	119.2282		G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.54932	118.8945		G15060_1 138.00 - WOODWARD EHV 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.57012	118.5688		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.57012	118.2351		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.56086	117.6999		P12:138:AEPW-WFEC:ELKCTY-4:RHWDND4
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.55516	117.4058		DEWEY - SOUTHARD 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58777	117.2242		G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.54932	116.7924		KEENAN4 - WOODWARD EHV 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58599	115.3462		CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58599	115.0795		CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58599	114.5795		IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.5939	112.8786		BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.5939	112.8453		P12:138:WFEC:MSL14
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.5939	112.0786		BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.5939	110.5119		MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.60127	110.2265		DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58419	109.8862		DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.57156	107.4413		WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.57156	105.3747		G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.57156	105.0413		G15060_1 138.00 - WOODWARD EHV 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59184	104.9613		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59184	104.5946		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59964	104.1736		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59109	103.9842		MOORELAND - TALOGA 138KV CKT 1
01ALL_2	0	16WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58277	103.9671		P12:138:AEPW-WFEC:ELKCTY-4:RHWDND4
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.56641	137.0584		G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.59902	136.8461		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.80683	136.4846		FPL SWITCH - MOORELAND 138KV CKT 1
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.56395	134.503		CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.56395	134.224		CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.56395	133.7357		IMO TAP - MEN TAP 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.57235	131.7936	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.57235	131.7587	P12:138:WFEC:MSL14	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.57235	130.9913	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.82151	130.8713	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.56258	129.6437	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.57235	129.4218	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.57821	127.115	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.54932	126.7272	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.62268	126.455	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.54932	124.6344	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.54932	124.2856	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.57012	123.9451	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.57012	123.5963	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.56086	123.0368	P12:138:AEPW-WFEC:ELKCTY-4:RHWDND4	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.55516	122.7294	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58777	122.534	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.7	0.54932	122.0882	KEENAN4 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58599	120.5709	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58599	120.2922	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58599	119.7695	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.5939	117.9916	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.5939	117.9567	P12:138:WFEC:MSL14	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.5939	117.1553	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.5939	115.5177	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.60127	115.2193	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58419	114.8637	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.57156	112.308	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.57156	110.1477	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.57156	109.7993	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.59184	109.7156	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.59184	109.3323	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.59964	108.8923	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.59109	108.6943	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58277	108.6764	P12:138:AEPW-WFEC:ELKCTY-4:RHWDND4	
01ALL_2	0	17G	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.30895	143.2663	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.30895	143.2663	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.9	0.12807	122.099	System Intact	
01NR_2	0	17G	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.30718	111.5398	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01NR_2	0	17G	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.30718	111.5398	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	145.7	0.05745	108.4735	System Intact	
01ALL_2	0	17G	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81624	125.1276	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81624	125.1276	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	17G	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.6	0.81611	125.0895	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	17G	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.6	0.81611	125.0895	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81587	124.6695	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81587	124.6695	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.81596	112.6425	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.81596	112.6425	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.4	0.81624	169.843	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.4	0.81624	169.843	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	17G	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.8	0.81611	169.7032	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	17G	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.8	0.81611	169.7032	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.9	0.81587	169.0826	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.9	0.81587	169.0826	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01NR_2	0	17G	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.7	0.81596	158.7976	WOODWARD - WWP4R4 138.00 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01NR_2	0	17G	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.7	0.81596	158.7976	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.12727	145.6567	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.12727	145.6567	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.05832	142.5213	System Intact	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06901	139.7527	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06901	139.4704	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06901	139.1175	IMO TAP - MEN TAP 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.07627	136.9538	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06869	132.8059	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06869	132.8059	P12:138:WFEC:MSL14	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06869	132.3119	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.07107	131.4315	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06869	131.3945	MOREWOOD SW - NINE MILE 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06571	131.2766	CANTON - TALOGA 69KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.07107	131.0787	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06523	131.0529	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06571	130.5004	CANTON - OKEENE 69KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06107	130.1154	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06162	129.9591	ALVA - CHEROKEE SW 69KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.06175	126.1853	System Intact	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.80679	131.844	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.59881	131.3485	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.5665	130.924	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.56404	128.6781	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.56404	128.411	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.56404	127.977	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.82147	126.4663	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.57241	124.9732	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.57241	124.9398	P12:138:WFEC:MSL14	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.57241	124.2052	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.56268	124.0909	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.57241	122.8029	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.57788	122.2363	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.54927	121.5688	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.62247	121.3995	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.56086	120.9862	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.54927	119.5655	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.54927	119.1982	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.57021	118.6692	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.57021	118.3019	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.55519	117.5557	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	2	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.54927	117.0947	KEENAN4 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58788	117.0535	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.5861	115.3773	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.5861	115.1105	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.5861	114.6104	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59397	111.7681	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59397	111.7014	P12:138:WFEC:MSL14	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59397	110.9678	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.60092	110.9141	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01NR_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.82153	110.4842	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58429	109.9799	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59397	109.4673	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.57152	107.7702	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58279	107.3742	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.9	0.57152	105.7028	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.9	0.57152	105.3694	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.9	0.59194	105.0866	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.9	0.59194	104.6531	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.9	0.59962	103.9679	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	0	17G	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.9	0.59116	103.8353	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.80679	137.8265	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.59881	137.3085	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.5665	136.8647	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.56404	134.5169	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.56404	134.2377	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.56404	133.784	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.82147	132.1967	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.57241	130.6439	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.57241	130.609	P12:138:WFEC:MSL14	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.57241	129.8411	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.56268	129.7216	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.57241	128.3751	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.57788	127.7828	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.54927	127.085	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.62247	126.9003	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.56086	126.476	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.54927	124.9908	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.54927	124.6068	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.57021	124.0539	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.57021	123.6699	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.55519	122.8898	DEWEY - SOUTHWARD 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.5	0.54927	122.4079	KEENAN4 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58788	122.3574	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.5861	120.6053	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.5861	120.3264	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.5861	119.8036	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59397	116.8325	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59397	116.7628	P12:138:WFEC:MSL14	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59397	115.996	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.60092	115.9398	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01NR_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.82153	115.4904	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58429	114.9633	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59397	114.4275	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.57152	112.6534	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58279	112.2396	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.57152	110.4924	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.57152	110.1438	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59194	109.8483	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59194	109.3952	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59962	108.6789	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.57745	108.337	DEWEY - SOUTHWARD 138KV CKT 1	
01NR_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.62229	102.2714	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01NR_2	0	17G	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58944	101.3784	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.31023	146.5379	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.31023	146.5379	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.9	0.12912	126.6038	System Intact	
01ALL_2	0	17SP	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	145.9	0.0567	111.7349	System Intact	
01ALL_2	0	17SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81622	120.0536	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81622	120.0536	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	3	17SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.8161	119.9022	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	3	17SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.8161	119.9022	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81585	119.4887	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81585	119.4887	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	3	17SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.8161	160.3264	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	3	17SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.8161	160.3264	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81622	159.9566	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81622	159.9566	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81585	159.8125	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81585	159.8125	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	17SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.8	0.81592	108.8753	WOODWARD - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	17SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.8	0.81592	108.8753	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.05782	149.5168	System Intact	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.12742	142.057	WOODWARD - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.12742	142.057	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.07116	136.2305	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.06913	136.0193	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.06913	135.7379	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.07116	135.5971	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.06913	135.386	IMO TAP - MEN TAP 138KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.07635	134.3448	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.0689	133.4838	P12:138:WFEC:MSL14	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.0689	133.4134	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.06182	132.8937	ALVA - CHEROKEE SW 69KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.0632	132.7896	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.06587	132.5092	CANTON - TALOGA 69KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.06037	131.93	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.06587	131.5239	CANTON - OKEENE 69KV CKT 1	
00NR_2	0	17SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.06191	128.0654	System Intact	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.6	131.8533	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56717	131.5705	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56466	129.1157	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56466	128.8487	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.80712	128.3401	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56466	128.2479	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57323	126.5941	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57323	126.5608	P12:138:WFEC:MSL14	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57323	125.8265	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57323	124.2911	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56332	124.2677	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.82181	122.9455	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.6237	121.957	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55008	121.3504	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57923	121.2776	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57085	119.4844	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55008	119.3477	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55008	119.0139	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57085	118.9503	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57843	118.1898	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56168	118.1335	P12:138:AEPW-WFEC:ELKCTY-4:RHVIND4	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58855	117.5477	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55594	117.3959	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58672	115.693	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58672	115.4262	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58672	114.7593	IMO TAP - MEN TAP 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.5948	113.2957	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.5948	113.2624	P12:138:WFEC:MSL14	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.5948	112.4955	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.5948	110.8949	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58494	110.0359	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.60233	109.8779	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.57234	107.4615	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59259	105.7738	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.57234	105.3608	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59259	105.2069	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.60038	105.1503	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.57234	105.0607	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58362	104.267	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01ALL_2	0	17SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59197	104.1959	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.6	137.8341	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.56717	137.5385	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.56466	134.9723	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.56466	134.6932	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.80712	134.1615	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.56466	134.0651	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57323	132.3364	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57323	132.3015	P12:138:WFEC:MSL14	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57323	131.5339	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57323	129.9288	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.56332	129.9044	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.82181	128.5164	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.6237	127.4831	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.55008	126.8548	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57923	126.7787	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57085	124.9041	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.55008	124.7612	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.55008	124.4123	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57085	124.3458	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57843	123.5508	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.56168	123.492	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.58855	122.874	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.55594	122.7209	DEWEY - SOUTHDARD 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.58672	120.9352	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.58672	120.6564	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.58672	119.9593	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.5948	118.4294	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.5948	118.3945	P12:138:WFEC:MSL14	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.5948	117.5929	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.5948	115.9198	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.58494	115.0218	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.60233	114.8567	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.57234	112.3308	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.59259	110.5666	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.57234	110.1349	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.59259	109.9741	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.60038	109.9148	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.57234	109.8212	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.58362	108.9915	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01ALL_2	0	17SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.59197	108.9172	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.31128	127.5032	WOODWARD - WWPAR4 138.00 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	20L	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.31128	127.5032	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.3069	116.4992	WOODWARD - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.3069	116.4992	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	143	0.12957	103.8063	System Intact	
01ALL_2	0	20L	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	146.3	0.05888	107.501	System Intact	
01NR_2	0	20L	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	160.6	0.11926	106.1743	WOODWARD - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	160.6	0.11926	106.1743	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	160.6	0.0715	104.0623	CLEO CORNER - CLEOPLT4	138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	160.6	0.0715	103.6264	CLEOPLT4	138.00 - MEN TAP 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	160.6	0.0715	103.3773	IMO TAP - MEN TAP 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	160.6	0.06253	101.7282	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_2	3	20L	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81592	130.2308	WOODWARD - WWP4R4	138.00 138KV CKT 1
01ALL_2	3	20L	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81592	130.2308	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.8	0.81604	130.1625	WOODWARD - WWP4R4	138.00 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.8	0.81604	130.1625	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.8	0.81567	129.8764	WOODWARD - WWP4R4	138.00 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.8	0.81567	129.8764	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.816	116.801	WOODWARD - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.816	116.801	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.2	0.81604	179.5046	WOODWARD - WWP4R4	138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.2	0.81604	179.5046	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01ALL_2	3	20L	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.6	0.81592	179.2738	WOODWARD - WWP4R4	138.00 138KV CKT 1
01ALL_2	3	20L	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.6	0.81592	179.2738	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.7	0.81567	178.7069	WOODWARD - WWP4R4	138.00 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.7	0.81567	178.7069	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.7	0.816	166.537	WOODWARD - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.7	0.816	166.537	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.12781	147.8381	WOODWARD - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.12781	147.8381	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06988	139.9756	CLEO CORNER - CLEOPLT4	138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06988	139.622	CLEOPLT4	138.00 - MEN TAP 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06988	139.3391	IMO TAP - MEN TAP 138KV CKT 1	
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.07694	137.0396	DGRASSE4	138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.05951	135.2	System Intact	
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06927	133.2047	P12:138:WFEC:MSL14	
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06927	133.134	BEARCAT	138.00 - MOORELAND 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06927	132.639	BEARCAT	138.00 - NINE MILE 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06927	131.7903	MOREWOOD SW - NINE MILE 138KV CKT 1	
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06585	131.5315	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.07194	131.2864	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06646	130.6687	CANTON - TALOGA 69KV CKT 1	
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06409	130.4165	MATHWSN7	345.00 - TATONGA7 345.00 345KV CKT 2
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06409	130.3458	MATHWSN7	345.00 - TATONGA7 345.00 345KV CKT 1
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06646	130.1736	CANTON - OKEENE 69KV CKT 1	
01NR_2	0	20L	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.06241	126.1743	System Intact	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.8078	133.8415	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.9	0.8225	128.5104	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.5695	126.45	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.60202	124.857	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.5671	124.8557	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.5671	124.4886	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.5671	124.1548	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.56565	120.5491	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.57546	120.1793	BEARCAT	138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.57546	120.1459	P12:138:WFEC:MSL14	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57546	119.4116	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.58056	118.2593	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55193	118.119	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57546	118.0765	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56372	117.417	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01NR_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.82111	116.9552	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55193	116.1163	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55193	115.7825	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.62582	114.4912	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57336	114.037	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.5579	113.821	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55193	113.6797	KEENAN4 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55193	113.6797	KEENAN4 (KEENAN1) 138/34.5/9.96KV TRANSFORMER CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59097	112.5846	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58927	111.4942	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58927	111.1274	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58927	110.7606	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59713	106.9109	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59713	106.8776	P12:138:WFEC:MSL14	
01NR_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.8	0.57103	106.8703	System Intact	
01NR_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.62123	106.7124	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.60372	106.641	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58736	106.4733	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59713	106.144	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01NR_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58853	105.6836	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59713	104.7102	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.8225	104.7025	FPL SWITCH - WOODWARD 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.57428	104.2879	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58575	103.7726	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01NR_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58694	102.8636	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01NR_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58694	102.4635	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01NR_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.58694	102.2301	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.57428	102.2206	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.57428	101.9205	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59521	100.3912	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	20L	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.59521	100.1244	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.8078	139.9124	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.8225	134.3335	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.5695	132.1857	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.60202	130.5205	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.5671	130.5191	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.5671	130.1353	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.5671	129.7864	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.56565	126.0171	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57546	125.6305	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57546	125.5956	P12:138:WFEC:MSL14	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57546	124.828	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.58056	123.6234	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.55193	123.4768	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57546	123.4324	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.56372	122.743	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.82111	122.2546	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.55193	121.3833	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.55193	121.0343	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.62582	119.6791	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.5579	118.9839	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.55193	118.8362	KEENAN4 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.55193	118.8362	KEENAN4 (KEENAN1) 138/34.5/9.96KV TRANSFORMER CKT 1	
01ALL_2	2	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.5579	118.6001	ROMAN NOSE - SOUTHARD 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59097	117.6861	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58927	116.5462	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58927	116.1628	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58927	115.7794	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59713	111.7553	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59713	111.7204	P12:138:WFEC:MSL14	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.62123	111.5478	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.60372	111.4732	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58736	111.2978	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59713	110.9536	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58853	110.4723	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59713	109.4548	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.8225	109.4467	FPL SWITCH - WOODWARD 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.57428	109.0134	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58575	108.4747	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58694	107.5246	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58694	107.1412	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58694	106.8623	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.57428	106.8524	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.57428	106.5387	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59521	104.9401	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59521	104.6612	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58026	104.3982	DEWEY - SOUTHARD 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59374	104.3784	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59374	104.3086	P12:138:WFEC:MSL14	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58496	104.1964	DOVER SW - OKEENE 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59374	103.5418	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.82111	102.1779	FPL SWITCH - WOODWARD 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.59374	102.1128	MOREWOOD SW - NINE MILE 138KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.5981	101.9496	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.57103	101.8689	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01NR_2	0	20L	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.9	0.58243	101.7714	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01ALL_2	0	20SP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.31048	142.4632	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.31048	142.4632	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.9	0.12929	124.0989	System Intact	
01ALL_2	0	20SP	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	145.8	0.05666	108.0247	System Intact	
01ALL_2	0	20SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.8162	119.1357	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.8162	119.1357	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	20SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81607	119.0931	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	20SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81607	119.0931	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	20SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.81583	118.6756	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	20SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.81583	118.6756	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	20SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81607	158.6132	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	20SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81607	158.6132	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.9	0.8162	158.3515	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.9	0.8162	158.3515	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81583	158.1693	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81583	158.1693	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
00NR_2	0	20SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.9	0.81591	107.0383	WOODWARD - WWP4R4 138.00 138KV CKT 1	
00NR_2	0	20SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.9	0.81591	107.0383	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.05783	148.3192	System Intact	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.12744	139.7307	WOODWARD - WWPAR4	138.00 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.12744	139.7307	WOODWARD EHV - WWPAR4	138.00 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.07118	134.8294	GLASS MOUNTAIN - MOORELAND	138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06914	134.4048	CLEO CORNER - CLEOPLT4	138.00 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.07118	134.2676	CLEO CORNER - GLASS MOUNTAIN	138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06914	133.9835	CLEOPLT4	138.00 - MEN TAP 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06914	133.6324	IMO TAP - MEN TAP	138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.07637	132.6668	DGRASSE4	138.00 - MOORELAND 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06183	132.269	ALVA - CHEROKEE SW	69KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06891	132.1555	BEARCAT	138.00 - MOORELAND 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06891	132.1555	P12:138:WFEC:MSL14	
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06589	131.6075	CANTON - TALOGA	69KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06321	131.1117	CRAWFISH765 765.00 - SEMINOLE765 765.00	765KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.0604	130.9656	WOODRING (WOODRNG2) 345/138/13.8KV	TRANSFORMER CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06589	130.4838	CANTON - OKEENE	69KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.06193	126.822	System Intact	
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56747	127.3381	G16-107-TAP 138.00 - OKEENE	138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.60035	127.3323	DGRASSE4	138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.80724	126.032	FPL SWITCH - MOORELAND	138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56495	124.6783	CLEO CORNER - CLEOPLT4	138.00 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56495	124.3112	CLEOPLT4	138.00 - MEN TAP 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56495	123.7104	IMO TAP - MEN TAP	138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57358	122.2711	BEARCAT	138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57358	122.2043	P12:138:WFEC:MSL14	
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57358	121.5034	BEARCAT	138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.82192	120.5305	FPL SWITCH - MOORELAND	138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57358	120.0014	MOREWOOD SW - NINE MILE	138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.5636	119.7636	DOVER SW - OKEENE	138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55037	117.2158	WOODWARD DISTRICT EHV - WWIND	345.00 345KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.62407	117.2062	DGRASSE4	138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57954	115.7839	DGRASSE7	345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57115	115.3164	GLASS MOUNTAIN - MOORELAND	138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55037	115.2465	G0762&G1120 345.00 - WWIND	345.00 345KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55037	114.9127	G15060_1	138.00 - WOODWARD EHV 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57115	114.7824	CLEO CORNER - GLASS MOUNTAIN	138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57872	114.6513	WOODWARD (WOODWRD2) 138/69/13.2KV	TRANSFORMER CKT 1
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.56201	113.739	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01ALL_2	2	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.55624	113.1945	DEWEY - SOUTHARD	138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58887	113.1842	G16-107-TAP 138.00 - OKEENE	138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58702	111.092	CLEO CORNER - CLEOPLT4	138.00 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58702	110.7253	CLEOPLT4	138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58702	110.092	IMO TAP - MEN TAP	138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59517	108.8121	BEARCAT	138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59517	108.7787	P12:138:WFEC:MSL14	
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59517	108.0121	BEARCAT	138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59517	106.4454	MOREWOOD SW - NINE MILE	138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58524	105.3701	DOVER SW - OKEENE	138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.60266	104.0883	DGRASSE7	345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.57265	103.1656	WOODWARD DISTRICT EHV - WWIND	345.00 345KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.60068	101.4861	WOODWARD (WOODWRD2) 138/69/13.2KV	TRANSFORMER CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.5929	101.4785	GLASS MOUNTAIN - MOORELAND	138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.57265	101.0989	G0762&G1120 345.00 - WWIND	345.00 345KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.5929	100.9118	CLEO CORNER - GLASS MOUNTAIN	138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.57265	100.7989	G15060_1	138.00 - WOODWARD EHV 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.56747	133.1141	G16-107-TAP 138.00 - OKEENE	138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.60035	133.1081	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.80724	131.7488	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.56495	130.3336	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.56495	129.9498	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.56495	129.3218	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.57358	127.8172	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.57358	127.7475	P12:138:WFEC:MSL14	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.57358	127.0147	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.82192	125.9901	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.57358	125.4446	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.5636	125.196	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.55037	122.5326	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.62407	122.5151	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.57954	121.0358	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.57115	120.5471	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.55037	120.474	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.55037	120.1251	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.57115	119.9888	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.57872	119.8518	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.56201	118.8981	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01ALL_2	2	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.55624	118.329	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58887	118.311	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58702	116.124	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58702	115.7407	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58702	115.0787	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.59517	113.7408	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.59517	113.706	P12:138:WFEC:MSL14	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.59517	112.9046	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.59517	111.267	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58524	110.1429	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.60266	108.8031	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.57265	107.8386	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.60068	106.083	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.5929	106.075	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.57265	105.6783	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.5929	105.4827	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.57265	105.3647	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.58396	104.2989	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01ALL_2	0	20SP	TO->FROM	G16_098S	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.59232	104.1549	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.30967	139.4807	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.30967	139.4807	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.8	0.12865	120.0165	System Intact	
01ALL_2	0	20WP	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	145.9	0.05649	110.546	System Intact	
01ALL_2	0	20WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81625	122.8653	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81625	122.8653	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	20WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81612	122.8509	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	20WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.7	0.81612	122.8509	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.8	0.81588	122.4318	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.8	0.81588	122.4318	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	20WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	184.9	0.81612	136.784	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	3	20WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	184.9	0.81612	136.784	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	184.7	0.81625	136.6296	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	184.7	0.81625	136.6296	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.81588	136.2889	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.81588	136.2889	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_2	0	20WP	TO->FROM	G16_0985	FPL SWITCH - WOODWARD 138KV CKT 1	184.9	0.81596	108.3202	WOODWARD - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	20WP	TO->FROM	G16_0985	FPL SWITCH - WOODWARD 138KV CKT 1	184.9	0.81596	108.3202	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.05762	149.4165	System Intact	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.12723	139.4388	WOODWARD - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.12723	139.4388	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.07101	132.6445	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06896	132.6382	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06896	132.2866	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.07101	132.2226	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06896	132.0756	IMO TAP - MEN TAP 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06304	131.8049	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06867	130.5777	P12:138:WFEC:MSL14	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06867	130.5074	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06157	130.1224	ALVA - CHEROKEE SW 69KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06867	130.0151	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06567	129.8945	CANTON - TALOGA 69KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06262	129.6231	G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06567	128.8397	CANTON - OKEENE 69KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_0985	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.06171	125.1727	System Intact	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.80704	128.5358	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.56686	127.645	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.59957	126.8962	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.56437	124.9607	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.56437	124.5938	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.56437	124.1268	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.82172	123.1856	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.57302	122.0214	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.57302	121.988	P12:138:WFEC:MSL14	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.57302	121.2542	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.56302	120.247	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.57302	119.7866	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.54983	117.4411	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.62326	116.8481	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.57884	116.0749	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.54983	115.4398	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.57055	115.1309	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.54983	115.1062	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.57055	114.7974	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.57819	113.8848	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58825	113.7043	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.56145	113.6998	P12:138:AEPW-WFEC:ELKCTY-4:RHVWIND4	
01ALL_2	2	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.55565	113.68	DEWEY - SOUTHWIND 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58643	111.5859	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58643	111.2192	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58643	110.7192	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59459	108.775	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59459	108.7417	P12:138:WFEC:MSL14	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59459	107.975	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59459	106.4083	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.58464	106.0616	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.60193	104.5182	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.57209	103.5999	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59228	101.501	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.57209	101.4999	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_0985	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.57209	101.1999	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	20WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59228	101.101		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.60014	100.8585		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
01ALL_2	0	20WP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.59164	100.0832		MOORELAND - TALOGA 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.80704	134.362		FPL SWITCH - MOORELAND 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.56686	133.4308		G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.59957	132.6481		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.56437	130.6249		CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.56437	130.2413		CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.56437	129.7532		IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.82172	128.7654		FPL SWITCH - MOORELAND 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.57302	127.5523		BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.57302	127.5175		P12:138:WFEC:MSL14
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.57302	126.7504		BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.56302	125.6975		DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.57302	125.2162		MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.54983	122.7645		WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.62326	122.1408		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.57884	121.3363		DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.54983	120.6724		G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.57055	120.3496		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.54983	120.3237		G15060_1 138.00 - WOODWARD EHV 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.57055	120.0009		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.57819	119.0469		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.58825	118.8547		G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.56145	118.8536		P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4
01ALL_2	2	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.55565	118.8328		DEWEY - SOUTHARD 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.58643	116.6403		CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.58643	116.257		CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.58643	115.7344		IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.59459	113.7021		BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.59459	113.6673		P12:138:WFEC:MSL14
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.59459	112.8659		BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.59459	111.2282		MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.58464	110.8658		DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.60193	109.2524		DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.57209	108.2926		WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.59228	106.0986		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.57209	106.0975		G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.57209	105.7839		G15060_1 138.00 - WOODWARD EHV 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.59228	105.6804		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.60014	105.427		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.59164	104.6166		MOORELAND - TALOGA 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.58338	104.4368		P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4
01ALL_2	0	25SP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.31064	138.33		WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.31064	138.33		WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_098S	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	143	0.12948	115.5749		System Intact
01ALL_2	0	25SP	TO->FROM	G16_098S	DOVER SW - OKEENE 138KV CKT 1	146.2	0.05689	101.4795		System Intact
01ALL_2	0	25SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81619	118.6519		WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81619	118.6519		WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	25SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81607	118.5006		WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	25SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81607	118.5006		WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81582	118.0871		WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_098S	FPL SWITCH - MOORELAND 138KV CKT 1	286.9	0.81582	118.0871		WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	25SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81607	157.8289		WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	25SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81607	157.8289		WOODWARD EHV - WWPAR4 138.00 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	25SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.8	0.81619	157.6652	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.8	0.81619	157.6652	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81582	157.315	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.81582	157.315	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	25SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.9	0.81591	106.4497	WOODWARD - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	25SP	TO->FROM	G16_098S	FPL SWITCH - WOODWARD 138KV CKT 1	152.9	0.81591	106.4497	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.058	143.5467	System Intact	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.12743	136.5228	WOODWARD - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.12743	136.5228	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.07117	129.1585	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.0689	129.0829	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.0689	129.0829	P12:138:WFEC:MSL14	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.06913	128.9445	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.07117	128.5963	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.06913	128.5931	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.0689	128.591	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.06913	128.2417	IMO TAP - MEN TAP 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.0689	127.6774	MOREWOOD SW - NINE MILE 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.06995	127.3138	MOORELAND - TALOGA 138KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.06182	127.1585	ALVA - CHEROKEE SW 69KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.06039	126.4866	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.06588	126.1451	CANTON - TALOGA 69KV CKT 1	
00NR_2	0	25SP	FROM->TO	G16_098S	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.06192	122.1996	System Intact	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.5674	131.3587	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.60031	130.5215	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.57338	129.4256	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.57338	129.3921	P12:138:WFEC:MSL14	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.57338	128.6563	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.56489	128.5932	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.56489	128.2253	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.80719	127.7447	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.56489	127.6568	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.57338	126.9841	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.56354	123.6686	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.82187	122.3151	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.55026	121.8396	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.5794	121.2316	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.62403	120.4907	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.55026	119.8329	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.56185	119.5838	P12:138:AEPW-WFEC:ELKCTY-4:RHWD4	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.55026	119.4985	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.57861	119.0717	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.57111	118.8135	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.56185	118.4467	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1	
01ALL_2	2	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299	0.55614	117.8461	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.5888	117.4576	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.59496	116.2842	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.59496	116.2174	P12:138:WFEC:MSL14	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.59496	115.4831	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.58695	115.2291	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.58695	114.8285	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.58695	114.2611	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.59496	113.6807	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.60251	109.7659	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.58517	109.5329	DOVER SW - OKEENE 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57253	108.0146	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.60057	106.1349	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57253	105.9452	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.58379	105.8469	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.57253	105.6448	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.59285	105.1735	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.59221	104.9221	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_098S	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.58379	104.6787	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.5674	137.3295	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.60031	136.4543	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.57338	135.3085	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.57338	135.2736	P12:138:WFEC:MSL14	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.57338	134.5043	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.56489	134.4384	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.56489	134.0538	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.80719	133.5512	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.56489	133.4593	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.57338	132.7561	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.56354	129.2899	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.82187	127.8632	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.55026	127.3778	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.5794	126.7421	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.62403	125.9561	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.55026	125.2799	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.56185	125.0194	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.55026	124.9302	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.57861	124.484	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.57111	124.2141	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.56185	123.8306	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286	0.55614	123.2028	DEWEY - SOUTHWARD 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.5888	122.7854	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.59496	121.5587	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.59496	121.4889	P12:138:WFEC:MSL14	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.59496	120.7213	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.58695	120.4558	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.58695	120.0371	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.58695	119.4439	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.59496	118.8372	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.60251	114.7448	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.58517	114.5013	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57253	112.9141	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.60057	110.9492	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57253	110.7508	G0762&G1120 345.00 - WWIND 345.00 345KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.58379	110.648	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.57253	110.4368	G15060_1 138.00 - WOODWARD EHV 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.59285	109.9441	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.59221	109.6813	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_098S	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.58379	109.4268	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1	
00NR_04	0	25SP	FROM->TO	G16_099P	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03581	114.5459	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
00NR_07	0	25SP	FROM->TO	G16_099P	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03581	114.5459	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
00NR_09	0	25SP	FROM->TO	G16_099P	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03581	114.5459	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
00NR_11	0	25SP	FROM->TO	G16_099P	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03581	114.5459	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
00NR_04	0	25SP	FROM->TO	G16_099P	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03581	114.4993	P12:LPL:SPS:K64.1.LP-SE.LUBBS	
00NR_07	0	25SP	FROM->TO	G16_099P	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03581	114.4993	P12:LPL:SPS:K64.1.LP-SE.LUBBS	
00NR_09	0	25SP	FROM->TO	G16_099P	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03581	114.4993	P12:LPL:SPS:K64.1.LP-SE.LUBBS	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
06ALL_15	0	16WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176.2	0.49438	139.5136	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	16WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176.2	0.42928	126.3927	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_13	0	16WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176.2	0.42928	126.3884	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_14	0	16WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176.2	0.42928	126.3162	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_12	0	16WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176.2	0.42928	126.3119	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_12	0	16WP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	176.8	0.49438	145.078	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_14	0	16WP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	176.8	0.49438	145.078	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	16WP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	176.8	0.49438	145.0356	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	16WP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	176.8	0.49438	145.0356	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.43705	142.6593	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.43705	142.655	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.43705	142.5358	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.43705	142.5316	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.9	0.31195	117.0814	System Intact
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.9	0.31195	117.0767	System Intact
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.9	0.31195	116.9589	System Intact
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.9	0.31195	116.9542	System Intact
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.33229	109.6838	P13:115-230:SPS:PLANT_X.1
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.33229	109.6838	P13:115-230:SPS:PLANT_X.1
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.31354	109.6467	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.33229	109.6412	P13:115-230:SPS:PLANT_X.1
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.33229	109.6412	P13:115-230:SPS:PLANT_X.1
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.31354	109.5871	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.31354	109.5318	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.31354	109.4722	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.32229	109.0519	P13:115-230:SPS:NEWHART.1
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.32229	109.0519	P13:115-230:SPS:NEWHART.1
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.30584	108.707	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	176	0.30584	108.707	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.57072	179.2934	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.57072	179.289	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.57072	179.211	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.57072	179.211	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56295	168.99	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56295	168.9856	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56295	168.8642	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56295	168.8598	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.4	0.39444	132.4831	System Intact
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.4	0.39444	132.4782	System Intact
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.4	0.39444	132.323	System Intact
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.4	0.39444	132.3181	System Intact
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39926	127.8358	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39926	127.7057	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39926	127.697	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39926	127.5669	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39923	124.1965	P12:345:SPS:J02.1.TOLK.EDDY
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39923	124.062	P12:345:SPS:J02.1.TOLK.EDDY
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39923	124.0577	P12:345:SPS:J02.1.TOLK.EDDY
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39923	123.9276	P12:345:SPS:J02.1.TOLK.EDDY
06ALL_12	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.40073	122.3399	P12:115:SPS:W40.1.WCANYON.DFSMTH
06ALL_14	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.40073	122.3356	P12:115:SPS:W40.1.WCANYON.DFSMTH
06ALL_13	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.40073	122.1838	P12:115:SPS:W40.1.WCANYON.DFSMTH
06ALL_15	0	16WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.40073	122.1795	P12:115:SPS:W40.1.WCANYON.DFSMTH
06ALL_12	2	16WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	416.9	0.51311	101.7566	P12:345:SPS:J02.1.TOLK.EDDY
06ALL_12	2	16WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.51311	101.7082	P12:345:SPS:J02.1.TOLK.EDDY

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
06ALL_13	2	16WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	416.9	0.51311	101.6901	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	2	16WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.51311	101.6418	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_14	2	16WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	416.9	0.51311	101.6308	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_14	2	16WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.51311	101.5825	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_15	2	16WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	416.9	0.51311	101.5644	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_15	2	16WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.51311	101.516	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	190.3	0.50562	147.2823	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	190.3	0.50562	147.2823	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	190.3	0.50562	147.2429	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	190.3	0.50562	147.2429	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	190.3	0.43705	128.7337	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_13	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	190.3	0.43705	128.7298	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_14	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	190.3	0.43705	128.6196	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_12	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	190.3	0.43705	128.6157	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_15	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.1	0.31195	103.9528	System Intact	
06ALL_13	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.1	0.31195	103.9485	System Intact	
06ALL_14	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.1	0.31195	103.8403	System Intact	
06ALL_12	0	16WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.1	0.31195	103.836	System Intact	
06ALL_12	0	17G	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.9	0.49461	144.1339	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	17G	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.9	0.49461	144.1339	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	17G	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.9	0.49461	144.0871	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	17G	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.9	0.49461	144.0871	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	17G	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.1	0.49461	132.4765	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	17G	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.1	0.49461	132.4765	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	17G	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.1	0.49461	132.4295	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	17G	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.1	0.49461	132.4295	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_12	0	17G	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.49671	117.3657	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_13	0	17G	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.49671	117.3657	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_14	0	17G	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.49671	117.3657	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_15	0	17G	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.49671	117.3657	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	17G	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49461	151.7314	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	17G	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49461	151.7314	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	17G	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49461	151.6845	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	17G	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49461	151.6845	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_12	0	17G	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49671	136.6131	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_13	0	17G	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49671	136.6131	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_14	0	17G	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49671	136.6131	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_15	0	17G	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49671	136.6131	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.50539	152.9617	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.50539	152.9617	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.50539	152.9182	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.50539	152.9182	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.43698	140.4454	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.43698	140.4411	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.43698	140.3194	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.43698	140.3151	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	122.4141	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	122.4141	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	122.4115	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	122.4115	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	122.2411	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	122.2411	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	122.2385	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	122.2385	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	119.2999	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	119.2999	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	119.2973	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43821	119.2973	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	157.2	0.31176	112.4682	System Intact	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	157.2	0.31176	112.4682	System Intact	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	157.2	0.31176	112.3443	System Intact	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	157.2	0.31176	112.3443	System Intact	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.31326	106.0722	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.31326	106.0114	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.31326	105.9593	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.31326	105.8941	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.3124	105.7103	P12:345:AEPW:O.K.U.-7:L.E.S.-7	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.3124	105.706	P12:345:AEPW:O.K.U.-7:L.E.S.-7	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.30561	105.6567	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.30561	105.6567	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.3124	105.5974	P12:345:AEPW:O.K.U.-7:L.E.S.-7	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.3124	105.593	P12:345:AEPW:O.K.U.-7:L.E.S.-7	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.30561	105.5915	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.4	0.30561	105.5872	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.57053	178.0831	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.57053	178.0783	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.57053	177.9916	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.57053	177.9916	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.56302	169.9859	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.56302	169.9811	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.56302	169.8463	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.56302	169.8415	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56685	151.9147	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56685	151.9147	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56685	151.9118	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56685	151.9118	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	148.6544	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	148.6544	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	148.6515	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	148.6515	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	148.3997	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	148.3997	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	148.3969	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	148.3969	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	144.2623	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	144.2623	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	144.2594	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.56179	144.2594	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.2	0.39436	132.0372	System Intact	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.2	0.39436	132.0317	System Intact	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.2	0.39436	131.8531	System Intact	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.2	0.39436	131.8475	System Intact	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.41327	123.1313	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.41327	123.1264	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.41327	122.9387	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.41327	122.9339	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.39905	122.696	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.39905	122.5516	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.39905	122.542	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.39905	122.3976	P12:345:SPS:J15.1.XRDS.TOLK	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.40463	121.7876	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.40463	121.7828	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.40463	121.6095	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.40463	121.6047	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.39902	118.652	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.39902	118.5076	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.39902	118.498	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.6	0.39902	118.3536	P12:345:SPS:J02.1.TOLK.EDDY	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	136	0.39091	112.2721	System Intact	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	136	0.39091	112.2721	System Intact	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	136	0.39091	112.2687	System Intact	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	136	0.39091	112.2687	System Intact	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.3924	103.6693	P12:345:SPS:J15.1.XRDS.TOLK	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.3924	103.6693	P12:345:SPS:J15.1.XRDS.TOLK	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.3924	103.5232	P12:345:SPS:J15.1.XRDS.TOLK	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.3924	103.5232	P12:345:SPS:J15.1.XRDS.TOLK	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.3996	102.9297	P12:230:SPS:K59.1.POTTER.BSHLND	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.3996	102.9297	P12:230:SPS:K59.1.POTTER.BSHLND	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.3996	102.9268	P12:230:SPS:K59.1.POTTER.BSHLND	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.3996	102.9268	P12:230:SPS:K59.1.POTTER.BSHLND	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.40771	102.7759	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.40771	102.7759	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.40771	102.7702	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.40771	102.7702	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	102.5398	G15_022_1 115.00 - SWISHER COUNTY INTERCHANGE 115KV CKT 1	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	102.5398	G15_022_1 115.00 - SWISHER COUNTY INTERCHANGE 115KV CKT 1	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	102.5369	G15_022_1 115.00 - SWISHER COUNTY INTERCHANGE 115KV CKT 1	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	102.5369	G15_022_1 115.00 - SWISHER COUNTY INTERCHANGE 115KV CKT 1	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	102.1579	CASTRO COUNTY INTERCHANGE - Deaf Smith REC-#22 115KV CKT 1	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	102.1579	CASTRO COUNTY INTERCHANGE - Deaf Smith REC-#22 115KV CKT 1	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	102.155	CASTRO COUNTY INTERCHANGE - Deaf Smith REC-#22 115KV CKT 1	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	102.155	CASTRO COUNTY INTERCHANGE - Deaf Smith REC-#22 115KV CKT 1	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	101.4577	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#15 & #19 69KV CKT 1	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	101.4577	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#15 & #19 69KV CKT 1	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	101.4548	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#15 & #19 69KV CKT 1	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39091	101.4548	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#15 & #19 69KV CKT 1	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39149	101.0996	CRAWFISH_DR 345.00 - TOLK STATION 345KV CKT 1	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39149	101.0996	CRAWFISH_DR 345.00 - TOLK STATION 345KV CKT 1	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39149	101.0939	CRAWFISH_DR 345.00 - TOLK STATION 345KV CKT 1	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39149	101.0939	CRAWFISH_DR 345.00 - TOLK STATION 345KV CKT 1	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39237	100.1162	P12:345:SPS:J02.1.TOLK.EDDY	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39237	100.1162	P12:345:SPS:J02.1.TOLK.EDDY	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39707	100.0796	DEAF SMITH COUNTY INTERCHANGE - Panda Energy Substation Hereford 115KV CKT 1	
06NR_12	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39707	100.0796	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39707	100.0796	DEAF SMITH COUNTY INTERCHANGE - Panda Energy Substation Hereford 115KV CKT 1	
06NR_13	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39707	100.0796	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39707	100.0738	DEAF SMITH COUNTY INTERCHANGE - Panda Energy Substation Hereford 115KV CKT 1	
06NR_14	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39707	100.0738	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39707	100.0738	DEAF SMITH COUNTY INTERCHANGE - Panda Energy Substation Hereford 115KV CKT 1	
06NR_15	0	17G	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	157.1	0.39707	100.0738	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06ALL_13	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.50539	147.6533	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.50539	147.6533	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.50539	147.6093	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.50539	147.6093	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.43698	134.9753	P12:115:SPS:V37.1.CASTRO.PLANTX	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
06ALL_13	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.43698	134.9709	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.43698	134.8476	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.43698	134.8432	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_12	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.50329	125.2149	P12:115:SPS:W51.1.NEWHART.CASTRO
06NR_13	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.50329	125.2149	P12:115:SPS:W51.1.NEWHART.CASTRO
06NR_14	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.50329	125.2149	P12:115:SPS:W51.1.NEWHART.CASTRO
06NR_15	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.50329	125.2149	P12:115:SPS:W51.1.NEWHART.CASTRO
06NR_14	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	116.7242	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_15	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	116.7242	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_12	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	116.7216	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_13	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	116.7216	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_14	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	116.5504	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1
06NR_15	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	116.5504	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1
06NR_12	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	116.5478	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1
06NR_13	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	116.5478	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1
06NR_14	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	113.5956	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1
06NR_15	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	113.5956	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1
06NR_12	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	113.593	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1
06NR_13	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.6	0.43821	113.593	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1
06ALL_13	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	154.8	0.31176	106.2016	System Intact
06ALL_15	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	154.8	0.31176	106.2016	System Intact
06ALL_12	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	154.8	0.31176	106.0758	System Intact
06ALL_14	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	154.8	0.31176	106.0758	System Intact
06ALL_13	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.31326	100.1578	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_15	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.31326	100.0962	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	17G	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.2	0.31326	100.0433	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	17SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.9	0.49469	139.1636	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_14	0	17SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.9	0.49469	139.1636	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	17SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.9	0.49469	139.1215	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	17SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.9	0.49469	139.1215	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.43705	137.6681	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.43705	137.6637	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.43705	137.5412	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.43705	137.5368	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.9	0.31178	111.4272	System Intact
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.9	0.31178	111.4224	System Intact
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.9	0.31178	111.3023	System Intact
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.9	0.31178	111.2975	System Intact
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.31326	105.9395	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.31326	105.8783	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.31326	105.8258	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.31326	105.7602	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.3056	104.9326	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.3056	104.9326	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.3056	104.867	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.2	0.3056	104.8626	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.57037	162.2472	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.57037	162.2424	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.57037	162.1556	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.57037	162.1556	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.56295	151.9885	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.56295	151.9837	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.56295	151.8486	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.56295	151.8438	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	133.9	0.39418	114.8313	System Intact

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	133.9	0.39418	114.8257		System Intact
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	133.9	0.39418	114.6467		System Intact
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	133.9	0.39418	114.6411		System Intact
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.3987	108.6674	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.3987	108.5227	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.3987	108.513	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.3987	108.3683	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.413	107.8542	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.413	107.8493	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.413	107.6612	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.413	107.6564	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.39867	104.8731	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.39867	104.7284	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.39867	104.7187	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.40443	104.6695	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.40443	104.6647	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.39867	104.5789	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.40443	104.491	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.40443	104.4862	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_12	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.39702	103.287	P12:115:SPS:T28.1.LAMTON.PLANTX	
06ALL_14	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.39702	103.2822	P12:115:SPS:T28.1.LAMTON.PLANTX	
06ALL_13	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.39702	103.1086	P12:115:SPS:T28.1.LAMTON.PLANTX	
06ALL_15	0	17SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.3	0.39702	103.1037	P12:115:SPS:T28.1.LAMTON.PLANTX	
06ALL_13	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	168.3	0.50531	137.8764	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	168.3	0.50531	137.8764	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	168.3	0.50531	137.8364	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	168.3	0.50531	137.8364	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	168.3	0.43705	129.9393	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_13	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	168.3	0.43705	129.9348	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_14	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	168.3	0.43705	129.8102	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_12	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	168.3	0.43705	129.8058	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_15	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	152.7	0.31178	102.6294		System Intact
06ALL_13	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	152.7	0.31178	102.6245		System Intact
06ALL_14	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	152.7	0.31178	102.5018		System Intact
06ALL_12	0	17SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	152.7	0.31178	102.4969		System Intact
06ALL_13	0	17SP	TO->FROM	G16_099T	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	474.9	0.13383	100.0266		System Intact
06ALL_12	0	20L	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.8	0.49346	148.0403	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	20L	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.8	0.49346	148.0403	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	20L	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.8	0.49346	147.9887	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	20L	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	159.8	0.49346	147.9887	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	20L	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159	0.49346	139.3512	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	20L	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159	0.49346	139.3512	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	20L	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159	0.49346	139.2993	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	20L	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159	0.49346	139.2993	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	20L	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49346	153.7927	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	20L	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49346	153.7927	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	20L	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49346	153.7412	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	20L	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49346	153.7412	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_12	0	20L	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49649	133.5478	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_13	0	20L	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49649	133.5478	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_14	0	20L	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49649	133.5478	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_15	0	20L	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.49649	133.5478	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.50654	156.0019	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.50654	156.0019	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.50654	155.9542	P12:115:SPS:W51.1.NEWHART.CASTRO	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.50654	155.9498	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.43896	141.6657	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.43896	141.6657	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.43896	141.5443	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.43896	141.5399	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.50351	138.9395	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.50351	138.9395	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.50351	138.9395	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.50351	138.9395	P12:115:SPS:W51.1.NEWHART.CASTRO	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	126.0487	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	126.0487	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	126.0461	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	126.0461	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	125.8757	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	125.8757	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	125.8731	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	125.8731	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	123.6843	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	123.6843	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	123.6817	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.43906	123.6817	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	157.5	0.31346	113.7533	System Intact	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	157.5	0.31346	113.7533	System Intact	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	157.5	0.31346	113.6296	System Intact	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	157.5	0.31346	113.6249	System Intact	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.3074	107.6916	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.3074	107.6873	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.3074	107.6309	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.3074	107.6266	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.31503	107.1698	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.33337	107.115	P13:115-230:SPS:PLANT_X_1	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.33337	107.115	P13:115-230:SPS:PLANT_X_1	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.31503	107.1004	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.33337	107.063	P13:115-230:SPS:PLANT_X_1	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.33337	107.063	P13:115-230:SPS:PLANT_X_1	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.31503	107.0484	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.31503	106.979	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.31401	106.8506	P12:345:AEPW:O.K.U.-7:L.E.S.-7	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.31401	106.8463	P12:345:AEPW:O.K.U.-7:L.E.S.-7	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.31401	106.7379	P12:345:AEPW:O.K.U.-7:L.E.S.-7	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.31401	106.7336	P12:345:AEPW:O.K.U.-7:L.E.S.-7	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.32378	106.5753	P13:115-230:SPS:NEWHART.2	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.7	0.32378	106.5753	P13:115-230:SPS:NEWHART.2	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.31163	104.1482	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.31163	104.1482	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.31163	104.1456	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.31163	104.1456	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.29206	102.7217	DEAF SMITH COUNTY INTERCHANGE - G15039_T 230.00 230KV CKT 1	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.29206	102.7217	DEAF SMITH COUNTY INTERCHANGE - G15039_T 230.00 230KV CKT 1	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.29206	102.7166	DEAF SMITH COUNTY INTERCHANGE - G15039_T 230.00 230KV CKT 1	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	173.4	0.29206	102.7166	DEAF SMITH COUNTY INTERCHANGE - G15039_T 230.00 230KV CKT 1	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.4	0.31171	102.2229	System Intact	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.4	0.31171	102.2229	System Intact	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.4	0.31171	102.22	System Intact	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.4	0.31171	102.22	System Intact	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.5697	183.1964	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.5697	183.1916	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.5697	183.1193	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.5697	183.1145	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.56104	174.2471	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.56104	174.2471	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.56104	174.1123	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.56104	174.1075	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56611	159.3676	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56611	159.3676	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56611	159.3647	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56611	159.3647	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	149.3919	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	149.3919	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	149.3891	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	149.3891	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	149.2023	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	149.2023	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	149.1994	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	149.1994	P12:115:SPS:V37.1.CASTRO.PLANTX	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	146.1049	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	146.1049	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	146.1021	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.56094	146.1021	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.1	0.39256	137.0471	System Intact	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.1	0.39256	137.0415	System Intact	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.1	0.39256	136.874	System Intact	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.1	0.39256	136.8684	System Intact	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39667	127.0028	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39667	126.8583	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39667	126.8486	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.40239	126.8219	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.40239	126.817	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39667	126.7041	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.40239	126.6581	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.40239	126.6533	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.41058	126.3578	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.41058	126.353	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.41058	126.1748	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.41058	126.1699	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39665	123.2182	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39665	123.0785	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39665	123.0689	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39665	122.9244	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39966	122.3244	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06ALL_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39966	122.3196	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06ALL_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39966	122.1606	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06ALL_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.5	0.39966	122.1558	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	137.2	0.38996	117.0732	System Intact	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	137.2	0.38996	117.0732	System Intact	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	137.2	0.38996	117.0667	System Intact	
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	137.2	0.38996	117.0667	System Intact	
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39158	108.4292	P12:345:SPS:J15.1.XRDS.TOLK	
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39158	108.4292	P12:345:SPS:J15.1.XRDS.TOLK	
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39158	108.2756	P12:345:SPS:J15.1.XRDS.TOLK	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY	
						(MVA)	TDF	LOADING %	CONTINGENCY
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39158	108.2756	P12:345:SPS:J15.1.XRDS.TOLK
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	106.8423	G15_022_1 115.00 - SWISHER COUNTY INTERCHANGE 115KV CKT 1
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	106.8423	G15_022_1 115.00 - SWISHER COUNTY INTERCHANGE 115KV CKT 1
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	106.8366	G15_022_1 115.00 - SWISHER COUNTY INTERCHANGE 115KV CKT 1
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	106.8366	G15_022_1 115.00 - SWISHER COUNTY INTERCHANGE 115KV CKT 1
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	105.7772	DEAF SMITH COUNTY INTERCHANGE - Panda Energy Substation Hereford 115KV CKT 1
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	105.7772	DEAF SMITH COUNTY INTERCHANGE - Panda Energy Substation Hereford 115KV CKT 1
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	105.7743	DEAF SMITH COUNTY INTERCHANGE - Panda Energy Substation Hereford 115KV CKT 1
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	105.7743	DEAF SMITH COUNTY INTERCHANGE - Panda Energy Substation Hereford 115KV CKT 1
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39061	105.7453	CRAWFISH_DR 345.00 - TOLK STATION 345KV CKT 1
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39061	105.7453	CRAWFISH_DR 345.00 - TOLK STATION 345KV CKT 1
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39061	105.7396	CRAWFISH_DR 345.00 - TOLK STATION 345KV CKT 1
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39061	105.7396	CRAWFISH_DR 345.00 - TOLK STATION 345KV CKT 1
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	105.714	P12:115:SPS:W40.1.WCANYON.DFSMTH
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	105.714	P12:115:SPS:W40.1.WCANYON.DFSMTH
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	105.7111	P12:115:SPS:W40.1.WCANYON.DFSMTH
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	105.7111	P12:115:SPS:W40.1.WCANYON.DFSMTH
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39154	105.5272	P12:345:SPS:J02.1.TOLK.EDDY
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39154	105.5272	P12:345:SPS:J02.1.TOLK.EDDY
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39154	105.3764	P12:345:SPS:J02.1.TOLK.EDDY
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39154	105.3764	P12:345:SPS:J02.1.TOLK.EDDY
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	105.262	CASTRO COUNTY INTERCHANGE - Deaf Smith REC-#22 115KV CKT 1
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	105.262	CASTRO COUNTY INTERCHANGE - Deaf Smith REC-#22 115KV CKT 1
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	105.2563	CASTRO COUNTY INTERCHANGE - Deaf Smith REC-#22 115KV CKT 1
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	105.2563	CASTRO COUNTY INTERCHANGE - Deaf Smith REC-#22 115KV CKT 1
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	105.0724	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#15 & #19 69KV CKT 1
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	105.0724	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#15 & #19 69KV CKT 1
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	105.0667	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#15 & #19 69KV CKT 1
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	105.0667	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#15 & #19 69KV CKT 1
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	104.8922	DAWN SUB - Panda Energy Substation Hereford 115KV CKT 1
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	104.8922	DAWN SUB - Panda Energy Substation Hereford 115KV CKT 1
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	104.8894	DAWN SUB - Panda Energy Substation Hereford 115KV CKT 1
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	104.8894	DAWN SUB - Panda Energy Substation Hereford 115KV CKT 1
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	104.7026	CANYON WEST SUB - DAWN SUB 115KV CKT 1
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	104.7026	CANYON WEST SUB - DAWN SUB 115KV CKT 1
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	104.6997	CANYON WEST SUB - DAWN SUB 115KV CKT 1
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.39675	104.6997	CANYON WEST SUB - DAWN SUB 115KV CKT 1
06NR_12	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	104.2506	G15031_1 230.00 230/34.5KV TRANSFORMER CKT 1
06NR_13	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	104.2506	G15031_1 230.00 230/34.5KV TRANSFORMER CKT 1
06NR_14	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	104.2449	G15031_1 230.00 230/34.5KV TRANSFORMER CKT 1
06NR_15	0	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	158.2	0.38996	104.2449	G15031_1 230.00 230/34.5KV TRANSFORMER CKT 1
06NR_12	2	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	159.2	0.38996	101.3973	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1
06NR_13	2	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	159.2	0.38996	101.3973	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1
06NR_14	2	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	159.2	0.38996	101.3916	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1
06NR_15	2	20L	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	159.2	0.38996	101.3916	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1
06ALL_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.50654	151.4442	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.50654	151.4442	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.50654	151.3959	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.50654	151.3915	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.43896	136.8814	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.43896	136.8814	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.43896	136.7586	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.43896	136.7542	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.50351	133.9832	P12:115:SPS:W51.1.NEWHART.CASTRO
06NR_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.50351	133.9832	P12:115:SPS:W51.1.NEWHART.CASTRO

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
06NR_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.50351	133.9832	P12:115:SPS:W51.1.NEWHART.CASTRO
06NR_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.50351	133.9832	P12:115:SPS:W51.1.NEWHART.CASTRO
06NR_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	121.0252	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	121.0252	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	121.0226	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	121.0226	P12:115:SPS:V37.1.CASTRO.PLANTX
06NR_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	120.8513	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1
06NR_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	120.8513	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1
06NR_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	120.8487	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1
06NR_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	120.8487	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1
06NR_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	118.6484	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1
06NR_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	118.6484	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1
06NR_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	118.6458	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1
06NR_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.5	0.43906	118.6458	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1
06NR_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	0.31346	108.212	System Intact
06ALL_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	0.31346	108.212	System Intact
06ALL_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	0.31346	108.0867	System Intact
06ALL_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	0.31346	108.0818	System Intact
06ALL_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.3074	102.5679	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.3074	102.5636	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.3074	102.5065	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.3074	102.5021	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31503	102.04	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.33337	101.9845	P13:115-230:SPS:PLANT_X.1
06ALL_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.33337	101.9845	P13:115-230:SPS:PLANT_X.1
06ALL_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31503	101.9698	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.33337	101.9319	P13:115-230:SPS:PLANT_X.1
06ALL_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.33337	101.9319	P13:115-230:SPS:PLANT_X.1
06ALL_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31503	101.9171	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31503	101.8469	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_15	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31401	101.7171	P12:345:AEPW:O.K.U.-7.L.E.S.-7
06ALL_13	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31401	101.7127	P12:345:AEPW:O.K.U.-7.L.E.S.-7
06ALL_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31401	101.603	P12:345:AEPW:O.K.U.-7.L.E.S.-7
06ALL_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31401	101.5986	P12:345:AEPW:O.K.U.-7.L.E.S.-7
06ALL_12	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.32378	101.4385	P13:115-230:SPS:NEWHART.2
06ALL_14	0	20L	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.32378	101.4385	P13:115-230:SPS:NEWHART.2
06ALL_12	0	20SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.4941	101.854	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_14	0	20SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.4941	101.854	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	20SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.4941	101.8023	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	20SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.4941	101.8023	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	20SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.43036	101.0057	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_13	0	20SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.43036	101.001	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_14	0	20SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.43036	100.9305	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_12	0	20SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.4	0.43036	100.9258	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_12	0	20SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.4941	132.992	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_14	0	20SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.4941	132.992	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	20SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.4941	132.9404	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	20SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.4941	132.9404	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.43829	138.052	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.43829	138.052	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.43829	137.9292	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.43829	137.9248	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	0.31261	114.6234	System Intact
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	0.31261	114.6186	System Intact
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	0.31261	114.4933	System Intact

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	155.4	0.31261	114.4933		System Intact
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31423	109.3003	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31423	109.2301	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31423	109.1818	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.31423	109.1116	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.30654	107.7559	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.30654	107.7515	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.30654	107.6945	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	170.7	0.30654	107.6945	P12:115:SPS:T59.1.CARGIL.CURRY	
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.56964	164.0086	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.56964	164.0038	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.56964	163.9317	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.56964	163.9269	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.56171	148.1747	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.56171	148.1747	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.56171	148.0401	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.56171	148.0401	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.5	0.39298	115.1634		System Intact
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.5	0.39298	115.1578		System Intact
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.5	0.39298	114.9908		System Intact
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	134.5	0.39298	114.9852		System Intact
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39747	109.3636	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39747	109.2194	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39747	109.2098	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39747	109.0656	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.41083	108.4555	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.41083	108.4507	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.41083	108.2776	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.41083	108.2728	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39744	105.7099	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39744	105.5657	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39744	105.556	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39744	105.4118	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.40282	105.0947	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.40282	105.0899	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_12	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39565	104.9794	P12:115:SPS:T28.1.LAMTON.PLANTX	
06ALL_14	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39565	104.9746	P12:115:SPS:T28.1.LAMTON.PLANTX	
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.40282	104.9264	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.40282	104.9216	P12:230:SPS:K59.1.POTTER.BSHLND	
06ALL_13	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39565	104.816	P12:115:SPS:T28.1.LAMTON.PLANTX	
06ALL_15	0	20SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	155.8	0.39565	104.8112	P12:115:SPS:T28.1.LAMTON.PLANTX	
06ALL_13	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.5059	141.1407	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.5059	141.1407	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.5059	141.087	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.5059	141.087	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.43829	130.0387	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_15	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.43829	130.0387	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_14	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.43829	129.9134	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_12	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.43829	129.9089	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_15	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	151.6	0.31261	105.5572		System Intact
06ALL_13	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	151.6	0.31261	105.5523		System Intact
06ALL_12	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	151.6	0.31261	105.4238		System Intact
06ALL_14	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	151.6	0.31261	105.4238		System Intact
06ALL_13	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.31423	100.7625	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_15	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.31423	100.6908	P12:345:SPS:J15.1.XRDS.TOLK	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
06ALL_12	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.31423	100.6416	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_14	0	20SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	167.3	0.31423	100.57	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_13	0	20SP	TO->FROM	G16_099T	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	0.13743	100.1517	System Intact
06ALL_12	0	20SP	TO->FROM	G16_099T	TOLK STATION TAP - TOLK STATION WEST 230KV CKT @1	473.6	0.13743	100.1422	System Intact
06ALL_12	0	20WP	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	176.4	0.49398	140.3956	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_14	0	20WP	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	176.4	0.49398	140.3956	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	20WP	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	176.4	0.49398	140.3489	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	20WP	TO->FROM	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - BC-KELLEY 3115.00 115KV CKT 1	176.4	0.49398	140.3489	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_12	0	20WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176	0.49398	138.1579	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_14	0	20WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176	0.49398	138.1579	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	20WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176	0.49398	138.111	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	20WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176	0.49398	138.111	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	20WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176	0.43025	125.803	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_15	0	20WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176	0.43025	125.803	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_12	0	20WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176	0.43025	125.7349	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_14	0	20WP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	176	0.43025	125.7349	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_12	0	20WP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	176.7	0.49398	144.0056	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_14	0	20WP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	176.7	0.49398	144.0056	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	20WP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	176.7	0.49398	143.9589	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	20WP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	176.7	0.49398	143.9589	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.43832	143.6835	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.43832	143.6835	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.43832	143.5639	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.43832	143.5596	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.1	0.31271	118.3379	System Intact
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.1	0.31271	118.3379	System Intact
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.1	0.31271	118.2147	System Intact
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	158.1	0.31271	118.2147	System Intact
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.31428	111.5919	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.31428	111.5192	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.31428	111.4722	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.31428	111.4039	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.32302	110.0249	P13:115-230:SPS:NEWHART.1
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.31336	109.894	P12:345:AEPW:O.K.U.-7:L.E.S.-7
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.31336	109.8897	P12:345:AEPW:O.K.U.-7:L.E.S.-7
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.30661	109.8028	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.30661	109.8028	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.31336	109.7786	P12:345:AEPW:O.K.U.-7:L.E.S.-7
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.31336	109.7786	P12:345:AEPW:O.K.U.-7:L.E.S.-7
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.30661	109.7472	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	175.3	0.30661	109.743	P12:115:SPS:T59.1.CARGIL.CURRY
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56975	178.6959	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56975	178.6959	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56975	178.6265	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56975	178.6265	P12:115:SPS:T04.1.DFSMTH.CASTRO
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56168	167.6512	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56168	167.6512	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56168	167.5298	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.56168	167.5255	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.5	0.39304	131.3526	System Intact
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.5	0.39304	131.3477	System Intact
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.5	0.39304	131.2023	System Intact
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.5	0.39304	131.1974	System Intact
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.41086	128.8918	P12:230:SPS:K11.1.BSHLND.DFSMTH
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.41086	128.8874	P12:230:SPS:K11.1.BSHLND.DFSMTH

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.41086	128.7313	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.41086	128.727	P12:230:SPS:K11.1.BSHLND.DFSMTH	
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39744	128.0058	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39744	127.8801	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39744	127.867	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39744	127.7413	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39741	124.6517	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39741	124.526	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39741	124.513	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39741	124.3872	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_12	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39999	122.155	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06ALL_14	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39999	122.1506	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06ALL_13	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39999	122.0075	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06ALL_15	0	20WP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	172.7	0.39999	122.0032	P12:115:SPS:W40.1.WCANYON.DFSMTH	
06ALL_12	2	20WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.50902	105.7217	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_12	2	20WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.50902	105.6977	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	2	20WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.50902	105.6588	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_13	2	20WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.50902	105.6348	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_14	2	20WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.50902	105.5888	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_14	2	20WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.50902	105.5648	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_15	2	20WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.50902	105.5277	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_15	2	20WP	TO->FROM	G16_099T	CASTROCO 345.00 (CASTROXF1) 345/115/13.2KV TRANSFORMER CKT 1	417	0.50902	105.5037	P12:345:SPS:J02.1.TOLK.EDDY	
06ALL_15	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	189.2	0.50602	148.2166	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	189.2	0.50602	148.2126	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_12	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	189.2	0.50602	148.1691	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	189.2	0.50602	148.1691	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	189.2	0.43832	129.7449	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_15	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	189.2	0.43832	129.7449	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_14	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	189.2	0.43832	129.634	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_12	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	189.2	0.43832	129.6301	P12:115:SPS:V37.1.CASTRO.PLANTX	
06ALL_13	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.8	0.31271	105.1759	System Intact	
06ALL_15	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.8	0.31271	105.1759	System Intact	
06ALL_12	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.8	0.31271	105.0625	System Intact	
06ALL_14	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	171.8	0.31271	105.0625	System Intact	
06ALL_13	0	20WP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	189.2	0.31428	100.0108	P12:345:SPS:J15.1.XRDS.TOLK	
06ALL_13	0	25SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.2	0.43001	104.5436	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_15	0	25SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.2	0.43001	104.5436	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_12	0	25SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.2	0.43001	104.4684	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_14	0	25SP	FROM->TO	G16_099T	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	159.2	0.43001	104.4684	P12:115:SPS:T04.1.DFSMTH.CASTRO	
06ALL_12	0	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.49391	134.4908	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_14	0	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.49391	134.4908	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_13	0	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.49391	134.4392	P12:115:SPS:W51.1.NEWHART.CASTRO	
06ALL_15	0	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.49391	134.4392	P12:115:SPS:W51.1.NEWHART.CASTRO	
00NR_12	3	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.18628	106.6131	P12:345:SPS:J15.1.XRDS.TOLK	
00NR_13	3	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.18628	106.6131	P12:345:SPS:J15.1.XRDS.TOLK	
00NR_14	3	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.18628	106.6131	P12:345:SPS:J15.1.XRDS.TOLK	
00NR_15	3	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.18628	106.6131	P12:345:SPS:J15.1.XRDS.TOLK	
00NR_14	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.20024	105.484	P12:345:SPS:J15.1.XRDS.TOLK	
00NR_15	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.20024	105.484	P12:345:SPS:J15.1.XRDS.TOLK	
00NR_12	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.20024	105.1962	P12:345:SPS:J15.1.XRDS.TOLK	
00NR_13	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.20024	105.1962	P12:345:SPS:J15.1.XRDS.TOLK	
00NR_14	3	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.18588	102.5971	CASTROCO 345.00 - TOLK STATION 345KV CKT 1	
00NR_15	3	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.18588	102.5971	CASTROCO 345.00 - TOLK STATION 345KV CKT 1	
00NR_12	3	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.18588	102.5943	CASTROCO 345.00 - TOLK STATION 345KV CKT 1	
00NR_13	3	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.6	0.18588	102.5943	CASTROCO 345.00 - TOLK STATION 345KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
00NR_14	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.16869	100.4668	P12:345:SPS:J02.1.TOLK.EDDY
00NR_15	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.16869	100.4668	P12:345:SPS:J02.1.TOLK.EDDY
00NR_14	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.19993	100.2185	CASTROCO 345.00 - TOLK STATION 345KV CKT 1
00NR_15	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.19993	100.2185	CASTROCO 345.00 - TOLK STATION 345KV CKT 1
00NR_12	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.19993	100.2157	CASTROCO 345.00 - TOLK STATION 345KV CKT 1
00NR_13	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.19993	100.2157	CASTROCO 345.00 - TOLK STATION 345KV CKT 1
00NR_12	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.16869	100.1367	P12:345:SPS:J02.1.TOLK.EDDY
00NR_13	2	25SP	TO->FROM	G16_099T	BC-KELLEY 3115.00 - CASTRO COUNTY INTERCHANGE 115KV CKT 1	159.5	0.16869	100.1367	P12:345:SPS:J02.1.TOLK.EDDY
06ALL_13	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.1	0.43816	139.5453	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.1	0.43816	139.5453	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.1	0.43816	139.4234	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.1	0.43816	139.4191	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_13	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	156.9	0.31263	112.9635	System Intact
06ALL_15	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	156.9	0.31263	112.9635	System Intact
06ALL_14	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	156.9	0.31263	112.8394	System Intact
06ALL_12	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	156.9	0.31263	112.8346	System Intact
06ALL_13	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.1	0.31432	106.9396	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_15	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.1	0.31432	106.8699	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.1	0.31432	106.8221	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_14	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	172.1	0.31432	106.7524	P12:345:SPS:J15.1.XRDS.TOLK
06ALL_12	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.2	0.56184	141.4792	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.2	0.56184	141.4744	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_13	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.2	0.56184	141.3384	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	154.2	0.56184	141.3384	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	132.6	0.39332	101.9981	System Intact
06ALL_14	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	132.6	0.39332	101.9924	System Intact
06ALL_13	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	132.6	0.39332	101.8229	System Intact
06ALL_15	0	25SP	FROM->TO	G16_099T	CASTRO COUNTY INTERCHANGE - NEWHART 115KV CKT 1	132.6	0.39332	101.8173	System Intact
06ALL_13	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	169.4	0.50609	132.6273	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_15	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	169.4	0.50609	132.6273	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_12	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	169.4	0.50609	132.5787	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_14	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	169.4	0.50609	132.5787	P12:115:SPS:W51.1.NEWHART.CASTRO
06ALL_13	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	169.4	0.43816	130.5534	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_15	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	169.4	0.43816	130.5534	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_14	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	169.4	0.43816	130.4296	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_12	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	169.4	0.43816	130.4252	P12:115:SPS:V37.1.CASTRO.PLANTX
06ALL_13	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	154	0.31263	102.818	System Intact
06ALL_15	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	154	0.31263	102.818	System Intact
06ALL_14	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	154	0.31263	102.6916	System Intact
06ALL_12	0	25SP	TO->FROM	G16_099T	DEAF SMITH COUNTY INTERCHANGE - DEAF SMITH REC-#21 115KV CKT 1	154	0.31263	102.6867	System Intact
00NR_12	0	25SP	TO->FROM	G16_099T	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.03381	105.6564	P13:115-230:SPS:SUNDOWN.1
00NR_13	0	25SP	TO->FROM	G16_099T	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.03381	105.6564	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_12	0	25SP	TO->FROM	G16_099T	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.03381	105.6564	P13:115-230:SPS:SUNDOWN.1
00NR_13	0	25SP	TO->FROM	G16_099T	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.03381	105.6564	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_14	0	25SP	TO->FROM	G16_099T	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.03381	105.6532	P13:115-230:SPS:SUNDOWN.1
00NR_14	0	25SP	TO->FROM	G16_099T	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.03381	105.6532	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_15	0	25SP	TO->FROM	G16_099T	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.03381	105.6532	P13:115-230:SPS:SUNDOWN.1
00NR_15	0	25SP	TO->FROM	G16_099T	HOCKLEY COUNTY INTERCHANGE - LAMB COUNTY INTERCHANGE 115KV CKT 1	141	0.03381	105.6532	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1
00NR_12	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03576	114.5396	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
00NR_13	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03576	114.5396	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
00NR_14	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03576	114.5396	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
00NR_15	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03576	114.5396	LUBBOCK POWER & LIGHT-SOUTHEAST - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
00NR_12	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03576	114.493	P12:LPL:SPS:K64.1.LP-SE.LUBBS
00NR_13	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03576	114.493	P12:LPL:SPS:K64.1.LP-SE.LUBBS
00NR_14	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1	214.5	0.03576	114.493	P12:LPL:SPS:K64.1.LP-SE.LUBBS

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
00NR_15	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	0.03069	103.0327	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_15	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	217	0.03069	103.0327	P13:069-230:LPL:LP-COOK.1
00NR_12	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	220.8	0.03056	101.4717	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_13	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	220.8	0.03056	101.4717	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_14	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	220.8	0.03056	101.4717	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_15	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	220.8	0.03056	101.4717	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_12	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	220.8	0.03056	101.4264	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_13	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	220.8	0.03056	101.4264	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_14	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	220.8	0.03056	101.4264	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_15	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	220.8	0.03056	101.4264	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_12	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.396	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_13	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.396	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_14	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.396	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_15	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.396	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_15	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3688	P13:069-230:LPL:LP-COOK.1
00NR_12	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_12	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_12	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	P13:069-230:LPL:LP-COOK.1
00NR_13	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_13	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_13	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	P13:069-230:LPL:LP-COOK.1
00NR_14	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_14	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_14	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	P13:069-230:LPL:LP-COOK.1
00NR_15	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	LUBBOCK POWER & LIGHT-HOLLY PLANT (SHIH T101039) 230/69/13.5KV TRANSFORMER CKT 1
00NR_15	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_15	0	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	222.5	0.03069	100.3061	P13:069-230:LPL:LP-COOK.1
00NR_12	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03056	100.2911	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_13	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03056	100.2911	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_14	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03056	100.2911	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_15	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03056	100.2911	JONES STATION - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1
00NR_12	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03056	100.2463	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_13	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03056	100.2463	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_14	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03056	100.2463	P12:230:LPL:K26.1JONES.LP-HOLLY
00NR_15	2	25SP	FROM->TO	G16_099T	LUBBOCK POWER & LIGHT-WADSWORTH (SHIH T101038) 230/69/13.5KV TRANSFORMER CKT 1	223.1	0.03056	100.2463	P12:230:LPL:K26.1JONES.LP-HOLLY
08NR_16	0	17G	FROM->TO	G16_104	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1	190.7	0.03019	127.9895	System Intact
08NR_16	2	17G	FROM->TO	G16_104	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1	190.6	0.03015	127.7859	System Intact
08ALL_16	0	20L	FROM->TO	G16_104	CLEVELAND - TULSA NORTH 345KV CKT 1	1099	0.08876	100.1459	System Intact
08ALL_16	0	25SP	FROM->TO	G16_104	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	1530.2	0.38225	103.0013	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL_16	0	25SP	TO->FROM	G16_104	G15063_T 345.00 - WOODRING 345KV CKT 1	1192.7	0.38225	107.9086	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL_16	0	25SP	TO->FROM	G16_104	G15063_T 345.00 - WOODRING 345KV CKT 1	1192.7	0.38281	102.9849	SOONER - SPRING CREEK 345KV CKT 1
00NR_2	0	16WP	TO->FROM	G16_107	CARMEN - EAGLE CHIEF 69KV CKT 1	21.3	0.05798	106.6596	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	16WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.5	1	140.0719	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.5	1	140.0719	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
00NR_1	0	16WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.3	1	139.9845	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
00NR_2	0	16WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.3	1	139.9845	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	16WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.2	1	139.8044	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	2	16WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.2	1	139.7341	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.19763	142.6307	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.19763	142.6307	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.9	0.13826	121.4726	System Intact
01ALL_2	0	16WP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.2452	117.5765	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35917	119.0389	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35917	119.0389	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34655	119.0129	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34655	118.7	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34655	118.1368	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.41704	116.6046	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34655	111.3461	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34655	111.0332	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35314	110.7109	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34655	110.47	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.36033	110.0106	OKEENE - WATONGA SW 69KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.41704	109.5501	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34642	108.0068	P12:138:WFEC:MSL14	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34642	107.8817	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.3441	107.8494	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34642	107.5062	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.36033	107.3197	CALUMET - WATONGA SW 69KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.3441	107.1611	ROMAN NOSE - SOUTHARD 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35087	106.9715	FAIRVIEW - OKEENE 69KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34642	106.7553	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34759	106.5624	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35917	102.8713	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35917	102.8713	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.36033	102.7698	OKEENE - WATONGA SW 69KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35314	102.1257	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.3441	100.715	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34642	100.4909	P12:138:WFEC:MSL14	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34642	100.3657	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35087	100.1344	FAIRVIEW - OKEENE 69KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.36033	100.0789	CALUMET - WATONGA SW 69KV CKT 1	
01ALL_2	3	16WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 2	160.3	0.35441	105.8263	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49841	170.5537	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49841	170.5537	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48197	164.0844	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48197	163.7999	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48197	163.2309	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49284	160.7956	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48394	156.2642	P12:138:WFEC:MSL14	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48394	156.1931	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48394	155.6952	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48197	154.8563	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48394	154.6995	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48197	154.5718	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48197	154.0028	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.45778	153.237	CANTON - TALOGA 69KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48399	153.1518	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48399	152.7962	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.45778	152.3124	CANTON - OKEENE 69KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.47744	151.2785	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.47054	151.2583	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.46914	150.5022	ALVA - CHEROKEE SW 69KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49841	149.8233	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49841	149.8233	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49284	149.7824	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48394	146.8596	P12:138:WFEC:MSL14	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48394	146.7885	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48394	146.2906	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48394	145.2949	MOREWOOD SW - NINE MILE 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.45778	144.5131	CANTON - TALOGA 69KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.45778	143.5885	CANTON - OKEENE 69KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48399	143.5657	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.47054	143.2001	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.47744	143.0388	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.47744	143.0338	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.46914	142.2927	ALVA - CHEROKEE SW 69KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	1	140.083	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	1	140.083	P12:138:WFEC:MSL12	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.50239	139.0967	WOODWARD - WWP4 138.00 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.50239	139.0967	WOODWARD EHV - WWP4 138.00 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48638	131.9476	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48836	131.6726	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48638	131.6663	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48638	131.385	IMO TAP - MEN TAP 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48836	131.321	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48184	129.9156	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48806	129.8073	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48806	129.8073	P12:138:WFEC:MSL14	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48806	129.315	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48137	128.8622	G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.46196	128.7757	CANTON - TALOGA 69KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.47323	128.6582	ALVA - CHEROKEE SW 69KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.46196	127.7911	CANTON - OKEENE 69KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48084	124.4054	System Intact	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48638	122.821	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48638	122.5397	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48638	122.2584	IMO TAP - MEN TAP 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48836	122.1948	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48836	121.8432	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48184	121.7352	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48137	120.6723	G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.47323	120.538	ALVA - CHEROKEE SW 69KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48806	120.5035	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48806	120.5035	P12:138:WFEC:MSL14	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48173	120.2609	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48172	120.2577	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.46196	120.1459	CANTON - TALOGA 69KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48084	116.1839	System Intact	
01ALL_2	3	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.2	0.53473	158.7902	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	3	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.53172	148.6531	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	3	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.2	0.30773	103.4198	WOODWARD - WWP4 138.00 138KV CKT 1	
01ALL_2	3	16WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.2	0.30773	103.4198	WOODWARD EHV - WWP4 138.00 138KV CKT 1	
00NR_1	0	16WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.5	1	136.3495	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
00NR_2	0	16WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.5	1	136.3495	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.8	1	134.9453	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	0	16WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.5	1	134.7381	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.5	1	134.7381	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	2	16WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.9	1	134.5009	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	OKEENE - WATONGA SW 69KV CKT 1	47.8	0.09549	107.7374	DOVER SW - OKEENE 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	OKEENE - WATONGA SW 69KV CKT 1	47.8	0.09549	100.3849	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.26825	154.2686	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.26825	154.0473	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.27024	153.4591	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.27024	153.4591	DOVER SW - OKEENE 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_1	2	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.26963	148.9618	DOVER SW - OKEENE 138KV CKT 1	
01ALL_1	2	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.26963	148.7478	DOVER SW - OKEENE 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.26825	146.9137	DOVER SW - OKEENE 138KV CKT 1	
01ALL_1	0	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.26825	146.7029	DOVER SW - OKEENE 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.26936	142.6571	DOVER SW - OKEENE 138KV CKT 1	
00NR_2	0	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.26936	142.4518	DOVER SW - OKEENE 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.26936	135.2846	DOVER SW - OKEENE 138KV CKT 1	
00NR_1	0	16WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.26936	135.0899	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.7	0.1796	134.5723	System Intact	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.31261	131.1133	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.23041	130.9101	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.2025	126.0768	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.2025	126.0434	P12:138:WFEC:MSL14	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.2025	125.3094	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.25563	124.0202	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.2025	123.8079	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.21742	121.6011	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.24259	120.9753	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.19546	118.5688	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.7	0.19546	118.2351	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	250	0.18759	117.5296	System Intact	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.32132	117.2242	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19834	115.3462	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19834	115.0795	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19834	114.5795	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21084	112.8786	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21084	112.8453	P12:138:WFEC:MSL14	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21084	112.0786	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21084	110.5119	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.22862	110.2265	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.26328	109.8862	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.20376	104.9613	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.20376	104.5946	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.20662	103.9842	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	0	16WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19926	103.9671	P12:138:AEPW-WFEC:ELKCTY-4:RHWDND4	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.31261	137.0584	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.23041	136.8461	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.2025	131.7936	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.2025	131.7587	P12:138:WFEC:MSL14	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.2025	130.9913	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.25563	129.6437	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.2025	129.4218	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.21742	127.115	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.24259	126.455	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.19546	123.9451	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.19546	123.5963	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.32132	122.534	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.19834	120.5709	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.19834	120.2922	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.19834	119.7695	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.21084	117.9916	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.21084	117.9567	P12:138:WFEC:MSL14	
01ALL_2	2	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.7	0.1796	117.205	System Intact	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.21084	117.1553	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.21084	115.5177	MOREWOOD SW - NINE MILE 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.22862	115.2193	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.26328	114.8637	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.20376	109.7156	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.20376	109.3323	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.20662	108.6943	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.19926	108.6764	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01ALL_2	0	16WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.18759	102.3777	System Intact	
01NR_2	0	17G	TO->FROM	G16_107	CARMEN - EAGLE CHIEF 69KV CKT 1	22.1	0.05798	119.9932	DOVER SW - OKEENE 138KV CKT 1	
01NR_1	0	17G	TO->FROM	G16_107	CARMEN - EAGLE CHIEF 69KV CKT 1	22.1	0.05798	113.3552	DOVER SW - OKEENE 138KV CKT 1	
01NR_1	0	17G	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.9	1	140.3087	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01NR_2	0	17G	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.9	1	140.3087	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	0	17G	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.6	1	140.1143	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.6	1	140.1143	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.2	1	139.8747	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	2	17G	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.2	1	139.8044	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.19719	143.2663	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.19719	143.2663	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.9	0.13783	122.099	System Intact	
01ALL_2	0	17G	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.24488	117.4016	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01NR_2	0	17G	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.19542	111.5398	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01NR_2	0	17G	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.19542	111.5398	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35979	117.1864	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35979	117.1864	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34725	116.7578	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34725	116.4449	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34725	115.9443	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.41759	113.9074	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_1	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34725	109.091	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35372	108.8406	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34725	108.7781	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_1	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34725	108.2775	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.36097	106.9779	OKEENE - WATONGA SW 69KV CKT 1	
01ALL_1	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.41759	106.8574	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34477	105.7061	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35147	105.3559	FAIRVIEW - OKEENE 69KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34706	105.354	P12:138:WFEC:MSL14	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34706	105.2915	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.36097	105.2883	CALUMET - WATONGA SW 69KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34477	105.0178	ROMAN NOSE - SOUTHARD 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34706	104.916	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34827	104.4236	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.34706	104.1651	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35979	101.0187	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_1	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35979	101.0187	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_1	0	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.8	0.35372	100.2554	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	3	17G	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 2	160.3	0.35508	103.6273	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.4989	166.5149	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.4989	166.5149	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48254	159.6639	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48254	159.3798	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48254	158.8826	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.49329	156.8165	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48447	151.2716	P12:138:WFEC:MSL14	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48447	151.2006	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48447	150.7034	BEARCAT 138.00 - NINE MILE 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48254	150.4439	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48254	150.1598	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48447	149.7801	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48254	149.6626	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48455	148.8839	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.45831	148.7458	CANTON - TALOGA 69KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48455	148.5287	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48096	148.3575	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.45831	147.8935	CANTON - OKEENE 69KV CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.47105	146.9679	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.46966	146.4309	ALVA - CHEROKEE SW 69KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.49329	145.819	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.4989	145.8089	WOODWARD - WWP4 138.00 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.4989	145.8089	WOODWARD EHV - WWP4 138.00 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.50239	145.6567	WOODWARD - WWP4 138.00 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.50239	145.6567	WOODWARD EHV - WWP4 138.00 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48447	141.8753	P12:138:WFEC:MSL14	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48447	141.8043	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48447	141.3071	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48447	140.3838	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.45831	140.0293	CANTON - TALOGA 69KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48638	139.7527	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48096	139.505	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48638	139.4704	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.48455	139.3113	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.45831	139.177	CANTON - OKEENE 69KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48638	139.1175	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.47105	138.9211	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.47799	138.8462	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
01ALL_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.8	0.46966	138.2331	ALVA - CHEROKEE SW 69KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.49648	136.9538	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48806	132.8059	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48806	132.8059	P12:138:WFEC:MSL14	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48806	132.3119	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48836	131.4315	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48806	131.3945	MOREWOOD SW - NINE MILE 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.46196	131.2766	CANTON - TALOGA 69KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48836	131.0787	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48447	131.0529	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48638	130.5939	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.46196	130.5004	CANTON - OKEENE 69KV CKT 1	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48638	130.3116	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.47454	130.1154	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.47323	129.9591	ALVA - CHEROKEE SW 69KV CKT 1	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48638	129.9587	IMO TAP - MEN TAP 138KV CKT 1	
01NR_2	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48084	126.1853	System Intact	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.49648	126.0293	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.50239	125.0875	WOODWARD - WWP4 138.00 138KV CKT 1	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.50239	125.0875	WOODWARD EHV - WWP4 138.00 138KV CKT 1	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48806	123.4693	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48806	123.4693	P12:138:WFEC:MSL14	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48806	122.9753	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.46196	122.6164	CANTON - TALOGA 69KV CKT 1	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48447	122.2562	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.47454	122.1189	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48806	122.0579	MOREWOOD SW - NINE MILE 138KV CKT 1
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.46196	121.8402	CANTON - OKEENE 69KV CKT 1
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.47323	121.8102	ALVA - CHEROKEE SW 69KV CKT 1
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48173	121.7438	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48172	121.7407	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
01NR_1	0	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.7	0.48084	117.9347	System Intact
01ALL_2	3	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.53528	154.6659	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	3	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.4	0.53227	144.4736	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	3	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.30803	101.2478	WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	17G	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.30803	101.2478	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
01NR_1	0	17G	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.3	1	136.5411	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01NR_2	0	17G	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.3	1	136.5411	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	17G	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.8	1	135.2954	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	0	17G	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.4	1	135.2541	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	17G	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.4	1	135.2541	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	2	17G	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.8	1	135.0153	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.26837	148.7908	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.26837	148.7908	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.27036	148.196	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.27036	148.196	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.26975	143.4914	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.26975	143.4914	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.26837	141.457	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.26837	141.457	DOVER SW - OKEENE 138KV CKT 1
01NR_2	0	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.26936	137.0215	DOVER SW - OKEENE 138KV CKT 1
01NR_2	0	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.26936	137.0215	DOVER SW - OKEENE 138KV CKT 1
01NR_1	0	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.26936	129.6808	DOVER SW - OKEENE 138KV CKT 1
01NR_1	0	17G	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.7	0.26936	129.6808	DOVER SW - OKEENE 138KV CKT 1
01NR_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.4	0.17956	135.0034	System Intact
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.23021	131.3485	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.3127	130.924	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.20256	124.9732	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.20256	124.9398	P12:138-WFEC:MSL14
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.20256	124.2052	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.25572	124.0909	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.20256	122.8029	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.21708	122.2363	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.24239	121.3995	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.19555	118.6692	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	2	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.5	0.19555	118.3019	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.9	0.18756	117.9283	System Intact
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.32142	117.0535	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19845	115.3773	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19845	115.1105	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19845	114.6104	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21091	111.7681	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21091	111.7014	P12:138-WFEC:MSL14
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21091	110.9678	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.22828	110.9141	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01NR_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.07281	110.4842	FPL SWITCH - MOORELAND 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.26338	109.9799	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21091	109.4673	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19928	107.3742	P12:138-AEPW-WFEC:ELKCTY-4:RHWIND4
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.20386	105.0866	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	17G	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.20386	104.6531	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2		0 17G	FROM->TO	G16_107	WOODWARD - WWP/4 138.00 138KV CKT 1	299.9	0.20669	103.8353	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.23021	137.3085	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.3127	136.8647	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.20256	130.6439	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.20256	130.609	P12:138:WFEC:MSL14	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.20256	129.8411	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.25572	129.7216	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.20256	128.3751	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.21708	127.7828	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.24239	126.9003	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.19555	124.0539	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.19555	123.6699	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.32142	122.3574	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.19845	120.6053	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.19845	120.3264	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.19845	119.8036	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	2	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.5	0.17956	117.5213	System Intact	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.21091	116.8325	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.21091	116.7628	P12:138:WFEC:MSL14	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.21091	115.996	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.22828	115.9398	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01NR_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.07281	115.4904	FPL SWITCH - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.26338	114.9633	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.21091	114.4275	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.19928	112.2396	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.20386	109.8483	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.20386	109.3952	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.18756	102.7197	System Intact	
01NR_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.24221	102.2714	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01NR_2	0	17G	TO->FROM	G16_107	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	286.9	0.32298	101.3784	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.3	1	140.1994	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.3	1	140.1994	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	17SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142	1	139.9309	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
00NR_1	0	17SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.3	1	139.9143	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
00NR_2	0	17SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.3	1	139.9143	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	2	17SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142	1	139.8604	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.19847	146.5379	WOODWARD - WWP/4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.19847	146.5379	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.9	0.13886	126.6038	System Intact	
01ALL_2	0	17SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.2458	121.9277	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.9	0.13886	103.5725	System Intact	
01ALL_1	0	17SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.19847	103.1216	WOODWARD - WWP/4 138.00 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.19847	103.1216	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.2458	102.9187	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34641	120.3602	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35913	120.0599	WOODWARD - WWP/4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35913	120.0599	WOODWARD EHV - WWP/4 138.00 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34641	120.0477	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34641	119.3602	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.41699	118.2492	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34641	112.703	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34641	112.3905	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35308	112.1709	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34641	111.703	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.41699	111.2079	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.36023	109.7038	OKEENE - WATONGA SW 69KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35077	109.539	FAIRVIEW - OKEENE 69KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34633	109.2069	P12:138:WFEC:MSL14	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34633	109.0819	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.344	108.7328	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34633	108.707	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34746	108.2466	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34633	107.9569	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.344	107.7953	ROMAN NOSE - SOUTHARD 138KV CKT 1	
01ALL_2	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34746	107.7466	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35913	103.9124	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35913	103.9124	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35308	103.5964	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35077	102.7105	FAIRVIEW - OKEENE 69KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.36023	102.472	OKEENE - WATONGA SW 69KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34633	101.7004	P12:138:WFEC:MSL14	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.344	101.6073	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34633	101.5754	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34633	101.2004	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.344	100.6698	ROMAN NOSE - SOUTHARD 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34014	100.6581	G15063_T 345.00 - WOODRING 345KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34633	100.4504	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34746	100.4343	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	3	17SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 2	160.5	0.35429	107.6307	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.4985	173.5109	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.4985	173.5109	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48195	167.3242	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48195	167.0388	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48195	166.3969	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.49291	164.3568	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	159.4458	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	159.4458	P12:138:WFEC:MSL14	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	158.9465	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48195	158.0697	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	157.8766	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48195	157.7844	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48195	157.1425	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	156.8647	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.45777	156.3795	CANTON - TALOGA 69KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	156.2941	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.45777	155.381	CANTON - OKEENE 69KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.47054	154.3289	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.46914	153.856	ALVA - CHEROKEE SW 69KV CKT 1	
01ALL_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.47743	153.8449	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.49291	153.3173	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.4985	152.7214	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.4985	152.7214	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	150.0093	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	150.0093	P12:138:WFEC:MSL14	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	149.51	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	148.4401	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.45777	147.6308	CANTON - TALOGA 69KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	147.2513	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.48398	146.6806	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.45777	146.6322	CANTON - OKEENE 69KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.47054	146.2478	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.46914	145.6231	ALVA - CHEROKEE SW 69KV CKT 1
01ALL_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.2	0.47743	145.5817	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.50255	142.057	WOODWARD - WWPAR4 138.00 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.50255	142.057	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48847	136.2305	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48651	136.0193	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48651	135.7379	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48847	135.5971	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48651	135.386	IMO TAP - MEN TAP 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.49658	134.3448	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48828	133.4838	P12:138:WFEC:MSL14
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48828	133.4134	BEARCAT 138.00 - MOORELAND 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.47344	132.8937	ALVA - CHEROKEE SW 69KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48197	132.7896	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.46213	132.5092	CANTON - TALOGA 69KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.4759	131.93	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.46213	131.5239	CANTON - OKEENE 69KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48102	128.0654	System Intact
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48651	126.8863	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48847	126.7491	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48651	126.6049	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48651	126.253	IMO TAP - MEN TAP 138KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48847	126.1158	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.47344	124.7709	ALVA - CHEROKEE SW 69KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48197	124.6034	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48828	124.1735	P12:138:WFEC:MSL14
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48828	124.1031	BEARCAT 138.00 - MOORELAND 138KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.4759	123.9845	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.46213	123.8733	CANTON - TALOGA 69KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48194	123.6492	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48194	123.5757	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.47925	123.3487	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.46213	122.8881	CANTON - OKEENE 69KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.1	0.48102	119.8381	System Intact
01ALL_2	3	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142	0.53475	161.4836	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	3	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.1	0.53173	151.3304	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	3	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142	0.30779	104.9334	WOODWARD - WWPAR4 138.00 138KV CKT 1
01ALL_2	3	17SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142	0.30779	104.9334	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
00NR_1	0	17SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.6	1	136.1837	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
00NR_2	0	17SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.6	1	136.1837	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.8	1	134.8052	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	0	17SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.4	1	134.6923	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.4	1	134.6923	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	2	17SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.8	1	134.5251	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.1	0.26832	158.7852	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.2	0.26832	158.5557	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69	0.27032	158.354	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.1	0.27032	158.1248	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.9	0.2697	153.8246	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69	0.2697	153.6017	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.1	0.26832	151.3874	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.2	0.26832	151.1686	DOVER SW - OKEENE 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.2696	146.054	DOVER SW - OKEENE 138KV CKT 1
00NR_2	0	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.2696	145.8441	DOVER SW - OKEENE 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_1	0	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.2696	138.6921		DOVER SW - OKEENE 138KV CKT 1
00NR_1	0	17SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.2696	138.4928		DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.5	0.18036	134.7758		System Intact
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.23139	131.8533		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.31336	131.5705		G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20338	126.5941		BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20338	126.5608		P12:138:WFEC:MSL14
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20338	125.8265		BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20338	124.2911		MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.25635	124.2677		DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.24361	121.957		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.21841	121.2776		DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.19619	119.4844		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	2	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.19619	118.9503		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.9	0.18837	117.5578		System Intact
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.32209	117.5477		G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19908	115.693		CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19908	115.4262		CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19908	114.7593		IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21174	113.2957		BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21174	113.2624		P12:138:WFEC:MSL14
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21174	112.4955		BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21174	110.8949		MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.26403	110.0359		DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.22966	109.8779		DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.20451	105.7738		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.20451	105.2069		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.2001	104.267		P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4
01ALL_2	0	17SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.2075	104.1959		MOORELAND - TALOGA 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.23139	137.8341		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.31336	137.5385		G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.20338	132.3364		BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.20338	132.3015		P12:138:WFEC:MSL14
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.20338	131.5339		BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.20338	129.9288		MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.25635	129.9044		DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.24361	127.4831		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.21841	126.7787		DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.19619	124.9041		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.19619	124.3458		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.32209	122.874		G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.19908	120.9352		CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.19908	120.6564		CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.19908	119.9593		IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.21174	118.4294		BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.21174	118.3945		P12:138:WFEC:MSL14
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.21174	117.5929		BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.18036	117.3293		System Intact
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.21174	115.9198		MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.26403	115.0218		DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.22966	114.8567		DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.20451	110.5666		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.20451	109.9741		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.2001	108.9915		P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.9	0.2075	108.9172		MOORELAND - TALOGA 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY	CONTINGENCY
						(MVA)	TDF	LOADING %	
01ALL_2	0	17SP	TO->FROM	G16_107	WOODWARD EHV - WWP4 138KV CKT 1	286.9	0.18837	102.397	System Intact
01NR_2	0	20L	TO->FROM	G16_107	CARMEN - EAGLE CHIEF 69KV CKT 1	23.9	0.0582	102.546	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	20L	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	140.9	1	141.0943	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	140.9	1	141.0943	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	2	20L	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.6	1	140.6086	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01NR_1	0	20L	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.6	1	140.6059	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.6	1	140.6059	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.7	1	140.58	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
08ALL_16	0	20L	FROM->TO	G16_107	CLEVELAND - TULSA NORTH 345KV CKT 1	1099	0.03754	100.1459	System Intact
01ALL_2	0	20L	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.19952	127.5032	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.19952	127.5032	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.19514	116.4992	WOODWARD - WWP4 138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.19514	116.4992	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	143	0.13931	103.8063	System Intact
01ALL_2	0	20L	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.24663	102.1275	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.36153	115.5756	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.36153	115.5756	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34895	115.3136	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34895	114.9395	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34895	114.5654	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.41893	109.447	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
01ALL_1	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34895	107.6799	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_1	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34895	107.3058	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_1	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34895	106.9318	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.35533	106.4554	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.6	0.36501	106.1743	WOODWARD - WWP4 138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.6	0.36501	106.1743	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.36239	105.5177	OKEENE - WATONGA SW 69KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.36239	104.4579	CALUMET - WATONGA SW 69KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34628	104.4107	DEWEY - SOUTHDARD 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.6	0.35326	104.0623	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34628	103.912	ROMAN NOSE - SOUTHDARD 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34864	103.8371	P12:138:WFEC:MSL14
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34864	103.7124	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.6	0.35326	103.6264	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.6	0.35326	103.3773	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34864	103.3384	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34337	102.9956	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.34337	102.9333	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.35165	102.9071	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_1	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.4	0.41893	102.4232	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
01NR_2	0	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.6	0.42223	101.7282	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
01ALL_2	3	20L	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 2	160.6	0.35671	102.3387	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.50043	158.4214	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.50043	158.4214	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48395	151.9176	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48395	151.5614	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48395	151.2053	IMO TAP - MEN TAP 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.50296	147.8381	WOODWARD - WWP4 138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.50296	147.8381	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.49467	147.4138	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.4858	143.0336	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.4858	143.0336	P12:138:WFEC:MSL14
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48395	142.6713	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.4858	142.535	BEARCAT 138.00 - NINE MILE 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48395	142.3152	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48395	141.959	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.4858	141.6091	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48223	141.0068	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.45959	140.6127	CANTON - TALOGA 69KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48598	140.4047	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.45959	140.1142	CANTON - OKEENE 69KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47922	139.9897	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48728	139.9756	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47922	139.9184	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48728	139.622	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48728	139.3391	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47227	138.9419	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.50043	137.6564	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.50043	137.6564	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.49719	137.0396	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.49467	136.3849	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.4858	133.6106	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.4858	133.6106	P12:138:WFEC:MSL14
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48867	133.2047	P12:138:WFEC:MSL14
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48867	133.134	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.4858	133.112	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48867	132.639	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.4858	132.1861	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48223	132.1292	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.45959	131.8714	CANTON - TALOGA 69KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48867	131.7903	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47922	131.7332	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47922	131.6619	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48512	131.5315	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.45959	131.3729	CANTON - OKEENE 69KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48927	131.2864	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47227	130.8723	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48728	130.7974	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.46275	130.6687	CANTON - TALOGA 69KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48728	130.4438	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48244	130.4165	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48244	130.3458	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.46275	130.1736	CANTON - OKEENE 69KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48728	130.1609	IMO TAP - MEN TAP 138KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.50296	127.2253	WOODWARD - WWP4 138.00 138KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.50296	127.2253	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48154	126.1743	System Intact
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.49719	126.0888	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48867	123.8451	P12:138:WFEC:MSL14
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48867	123.7744	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48867	123.2794	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48512	122.7161	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48867	122.4307	MOREWOOD SW - NINE MILE 138KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48244	122.2185	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48244	122.1478	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.46275	121.9901	CANTON - TALOGA 69KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.46275	121.4951	CANTON - OKEENE 69KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.47525	121.4692	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1
01NR_1	0	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	141.4	0.48154	117.9031	System Intact

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
01ALL_2	3	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.53667	146.1426	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	3	20L	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.53366	135.9063	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01NR_1	0	20L	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142	1	137.5338	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142	1	137.5338	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	0	20L	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	141.7	1	137.1925	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	141.7	1	137.1925	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.3	1	137.0357	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	2	20L	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.3	1	136.7546	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.6	0.26869	136.2518	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.7	0.26869	136.0534	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.5	0.2707	135.3569	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.5	0.2707	135.3569	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.4	0.27007	130.8967	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.5	0.27007	130.7056	DOVER SW - OKEENE 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.3	0.26927	130.0931	DOVER SW - OKEENE 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.26927	129.9056	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.6	0.26869	128.7897	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.7	0.26869	128.6022	DOVER SW - OKEENE 138KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.3	0.26927	122.7099	DOVER SW - OKEENE 138KV CKT 1
01NR_1	0	20L	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.26927	122.5331	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.5	0.18218	130.8956	System Intact
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.31568	126.45	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.23338	124.857	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.25866	120.5491	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20557	120.1793	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20557	120.1459	P12:138:WFEC:MSL14
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20557	119.4116	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.21967	118.2593	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20557	118.0765	MOREWOOD SW - NINE MILE 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.07236	116.9552	FPL SWITCH - MOORELAND 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.24569	114.4912	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.19868	114.037	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.9	0.19028	113.7893	System Intact
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.32449	112.5846	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.2016	111.4942	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.2016	111.1274	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.2016	110.7606	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21402	106.9109	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21402	106.8776	P12:138:WFEC:MSL14
01NR_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.8	0.18703	106.8703	System Intact
01NR_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.2411	106.7124	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.23097	106.641	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.26642	106.4733	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21402	106.144	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.32205	105.6836	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.21402	104.7102	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.2022	103.7726	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4
01NR_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19926	102.8636	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19926	102.4635	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01NR_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.19926	102.2301	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.2071	100.3912	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	20L	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.9	0.2071	100.1244	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.31568	132.1857	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.23338	130.5205	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.25866	126.0171	DOVER SW - OKEENE 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT		RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
01ALL_2	2	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.6	0.20557	125.6305	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.6	0.20557	125.5956	P12:138:WFEC:MSL14
01ALL_2	2	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.6	0.20557	124.828	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.6	0.21967	123.6234	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	2	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.6	0.20557	123.4324	MOREWOOD SW - NINE MILE 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.07236	122.2546	FPL SWITCH - MOORELAND 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.24569	119.6791	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.32449	117.6861	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.2016	116.5462	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.2016	116.1628	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.2016	115.7794	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	2	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.6	0.18218	113.9513	System Intact
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.21402	111.7553	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.21402	111.7204	P12:138:WFEC:MSL14
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.2411	111.5478	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.23097	111.4732	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.26642	111.2978	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.21402	110.9536	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.32205	110.4723	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.21402	109.4548	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.2022	108.4747	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.19926	107.5246	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.19926	107.1412	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.19926	106.8623	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.2071	104.9401	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.2071	104.6612	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.19561	104.3982	DEWEY - SOUTHARD 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.21063	104.3784	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.21063	104.3086	P12:138:WFEC:MSL14
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.26401	104.1964	DOVER SW - OKEENE 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.21063	103.5418	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.07236	102.1779	FPL SWITCH - WOODWARD 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.21063	102.1128	MOREWOOD SW - NINE MILE 138KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.22535	101.9496	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.18703	101.8689	WOODWARD DISTRICT EHV - WWIND 345.00 345KV CKT 1
01NR_2	0	20L	TO->FROM	G16_107	WOODWARD EHV - WWP4R4	138.00 138KV CKT 1	286.9	0.19888	101.7714	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4
01ALL_1	0	20SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1		141.6	1	139.9024	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1		141.6	1	139.9024	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
00NR_1	0	20SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1		142.5	1	139.7179	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
00NR_2	0	20SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1		142.5	1	139.7179	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	2	20SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1		142.2	1	139.6637	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1		142.3	1	139.6358	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1		186.9	0.19872	142.4632	WOODWARD - WWP4R4 138.00 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1		186.9	0.19872	142.4632	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1		142.9	0.13903	124.0989	System Intact
01ALL_2	0	20SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1		186.9	0.24597	119.9094	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	0	20SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1		142.9	0.13903	101.0726	System Intact
01ALL_1	0	20SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1		186.9	0.24597	100.9003	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1		159.9	0.34638	116.5403	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1		159.9	0.41702	116.3844	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1		159.9	0.34638	116.1651	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1		159.9	0.35915	115.8824	WOODWARD - WWP4R4 138.00 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1		159.9	0.35915	115.8824	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1		159.9	0.34638	115.5397	IMO TAP - MEN TAP 138KV CKT 1
01ALL_1	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1		159.9	0.41702	109.3344	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_1	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34638	108.8783	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.35308	108.5424	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34638	108.5031	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_1	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34638	107.8777	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.35077	107.1596	FAIRVIEW - OKEENE 69KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.36022	106.3195	OKEENE - WATONGA SW 69KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34633	105.7061	P12:138:WFEC:MSL14	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34633	105.581	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34399	105.2228	DEWEY - SOUTHARD 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34633	105.2058	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34744	104.7944	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34633	104.4553	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34012	104.223	G15063_T 345.00 - WOODRING 345KV CKT 1	
01ALL_2	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.34399	104.2222	ROMAN NOSE - SOUTHARD 138KV CKT 1	
01ALL_1	0	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	159.9	0.35077	100.3268	FAIRVIEW - OKEENE 69KV CKT 1	
01ALL_2	3	20SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 2	160.4	0.35427	103.9439	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49857	171.2695	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49857	171.2695	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48198	165.7863	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48198	165.3596	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48198	164.7195	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49297	162.8425	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48403	158.1538	P12:138:WFEC:MSL14	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48403	158.0827	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48403	157.5848	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48198	156.5582	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48403	156.5179	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48198	156.1315	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48402	155.57	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.45781	155.518	CANTON - TALOGA 69KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48198	155.4913	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48402	155.0721	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.45781	154.38	CANTON - OKEENE 69KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.47058	153.4732	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.46917	153.2811	ALVA - CHEROKEE SW 69KV CKT 1	
01ALL_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.47746	152.6349	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49297	151.8344	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49857	150.534	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.49857	150.534	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48403	148.7442	P12:138:WFEC:MSL14	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48403	148.673	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48403	148.1752	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48403	147.1083	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.45781	146.7891	CANTON - TALOGA 69KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48402	145.9889	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.45781	145.6511	CANTON - OKEENE 69KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.48402	145.4911	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.47058	145.41	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.46917	145.0665	ALVA - CHEROKEE SW 69KV CKT 1	
01ALL_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.6	0.47746	144.3902	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.50258	139.7307	WOODWARD - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.50258	139.7307	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48851	134.8294	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48655	134.4048	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48851	134.2676	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48655	133.9835	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48655	133.6324	IMO TAP - MEN TAP 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.49662	132.6668	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.47346	132.269	ALVA - CHEROKEE SW 69KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48831	132.1555	BEARCAT 138.00 - MOORELAND 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48831	132.1555	P12:138:WFEC:MSL14
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.46218	131.6075	CANTON - TALOGA 69KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.482	131.1117	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.47597	130.9656	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.46218	130.4838	CANTON - OKEENE 69KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48106	126.822	System Intact
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48851	125.3648	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48655	125.2911	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48655	124.8697	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48851	124.803	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48655	124.5186	IMO TAP - MEN TAP 138KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.47346	124.1601	ALVA - CHEROKEE SW 69KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.47597	123.0337	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.46218	122.9898	CANTON - TALOGA 69KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.482	122.9428	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48831	122.8648	BEARCAT 138.00 - MOORELAND 138KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48831	122.8648	P12:138:WFEC:MSL14
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48197	122.3385	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.47928	122.3195	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.47474	122.1405	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.46218	121.8662	CANTON - OKEENE 69KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.4	0.48106	118.6089	System Intact
01ALL_2	3	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.2	0.53479	160.2166	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	3	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.53178	150.0736	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	3	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.2	0.30784	103.6103	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	3	20SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.2	0.30784	103.6103	WOODWARD EHV - WWP4 138.00 138KV CKT 1
00NR_1	0	20SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.7	1	135.8781	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
00NR_2	0	20SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.7	1	135.8781	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.9	1	134.5709	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	0	20SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.6	1	134.293	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.6	1	134.293	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	2	20SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.9	1	134.221	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.26838	161.2215	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.26838	160.9898	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.27038	160.421	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.27038	160.1906	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.26976	155.9273	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.26976	155.7029	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.26838	153.856	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.26838	153.635	DOVER SW - OKEENE 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.26962	148.7278	DOVER SW - OKEENE 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.26962	148.7278	DOVER SW - OKEENE 138KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.26962	141.3976	DOVER SW - OKEENE 138KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.26962	141.3976	DOVER SW - OKEENE 138KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.11829	105.0874	ALVA - CHEROKEE SW 69KV CKT 1
00NR_2	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.11829	105.0874	ALVA - CHEROKEE SW 69KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.11829	104.2041	ALVA - CHEROKEE SW 69KV CKT 1
00NR_1	0	20SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.8	0.11829	104.2041	ALVA - CHEROKEE SW 69KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	249.6	0.18062	129.799	System Intact
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.31365	127.3381	G16-107-TAP 138.00 - OKEENE 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.23171	127.3323	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20369	122.2711	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20369	122.2043	P12:138:WFEC:MSL14
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20369	121.5034	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.20369	120.0014	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.25661	119.7636	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.24394	117.2062	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.21865	115.7839	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.19647	115.3164	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.6	0.19647	114.7824	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.32239	113.1842	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.9	0.18865	112.4837	System Intact
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19934	111.092	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19934	110.7253	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19934	110.092	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21206	108.8121	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21206	108.7787	P12:138:WFEC:MSL14
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21206	108.0121	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21206	106.4454	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.26429	105.3701	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.22991	104.0883	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.20479	101.4785	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	20SP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.20479	100.9118	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.31365	133.1141	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.23171	133.1081	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.20369	127.8172	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.20369	127.7475	P12:138:WFEC:MSL14
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.20369	127.0147	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.20369	125.4446	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.25661	125.196	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.24394	122.5151	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.21865	121.0358	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.19647	120.5471	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.19647	119.9888	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.32239	118.311	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.19934	116.124	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.19934	115.7407	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.19934	115.0787	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.21206	113.7408	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.21206	113.706	P12:138:WFEC:MSL14
01ALL_2	2	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.6	0.18062	113.042	System Intact
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.21206	112.9046	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.21206	111.267	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.26429	110.1429	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.22991	108.8031	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.20479	106.075	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.20479	105.4827	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.2004	104.2989	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4
01ALL_2	0	20SP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.20781	104.1549	MOORELAND - TALOGA 138KV CKT 1
00NR_2	0	20WP	TO->FROM	G16_107	CARMEN - EAGLE CHIEF 69KV CKT 1	21.4	0.05806	113.764	DOVER SW - OKEENE 138KV CKT 1
00NR_1	0	20WP	TO->FROM	G16_107	CARMEN - EAGLE CHIEF 69KV CKT 1	21.4	0.05806	106.8879	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	3	20WP	TO->FROM	G16_107	CARMEN - EAGLE CHIEF 69KV CKT 1	19.3	0.03179	99.9306	System Intact
01ALL_1	0	20WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.4	1	140.1003	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.4	1	140.1003	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
00NR_1	0	20WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.4	1	139.8862	G16-107-TAP 138.00 - OKEENE 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_2	0	20WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.4		1	139.8862	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	20WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.2		1	139.7341	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	2	20WP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.1		1	139.6916	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.1979		139.4807	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.1979		139.4807	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	142.8	0.13839		120.0165	System Intact
01ALL_2	0	20WP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	186.9	0.24528		116.8654	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34621		119.0127	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34621		118.6377	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35893		118.3374	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35893		118.3374	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34621		118.0752	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.41682		117.79	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34621		111.3555	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34621		110.9805	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.41682		110.7443	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35286		110.5646	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34621		110.418	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.36003		110.0438	OKEENE - WATONGA SW 69KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34379		107.9478	DEWEY - SOUTHARD 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35061		107.8923	FAIRVIEW - OKEENE 69KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34616		107.8772	P12:138:WFEC:MSL14
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34616		107.7522	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34616		107.3772	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.36003		107.2313	CALUMET - WATONGA SW 69KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34379		107.1978	ROMAN NOSE - SOUTHARD 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34725		106.8322	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34616		106.6272	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.36003		102.812	OKEENE - WATONGA SW 69KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35893		102.19	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35893		102.19	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35286		101.9901	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.35061		101.0638	FAIRVIEW - OKEENE 69KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34379		100.8224	DEWEY - SOUTHARD 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34616		100.3706	P12:138:WFEC:MSL14
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34616		100.2456	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.34379		100.0724	ROMAN NOSE - SOUTHARD 138KV CKT 1
01ALL_1	0	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160	0.36003		99.9995	CALUMET - WATONGA SW 69KV CKT 1
01ALL_2	3	20WP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 2	160.4	0.35409		105.9841	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.49829		172.4404	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.49829		172.4404	WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48175		166.9035	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48175		166.5474	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48175		166.0488	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.49267		163.4267	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48381		158.909	P12:138:WFEC:MSL14
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48381		158.8378	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48381		158.3392	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48175		157.6622	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48381		157.3421	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48175		157.3061	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48175		156.8075	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.45758		156.6205	CANTON - TALOGA 69KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48377		156.2402	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48377		155.8841	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.45758	155.5522	CANTON - OKEENE 69KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47036	154.3642	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47724	154.232	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
01ALL_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.46895	153.9581	ALVA - CHEROKEE SW 69KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.49267	152.3978	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.49829	151.6754	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.49829	151.6754	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48381	149.4809	P12:138:WFEC:MSL14	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48381	149.4097	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48381	148.9111	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48381	147.914	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.45758	147.8792	CANTON - TALOGA 69KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.45758	146.8108	CANTON - OKEENE 69KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.48377	146.6404	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47036	146.2946	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47724	145.9754	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.47724	145.9754	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
01ALL_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.4	0.46895	145.737	ALVA - CHEROKEE SW 69KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.50238	139.4388	WOODWARD - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.50238	139.4388	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48835	132.6445	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48636	132.6382	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48636	132.2866	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48835	132.2226	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48636	132.0756	IMO TAP - MEN TAP 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48183	131.8049	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48807	130.5777	P12:138:WFEC:MSL14	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48807	130.5074	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.47321	130.1224	ALVA - CHEROKEE SW 69KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48807	130.0151	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.46196	129.8945	CANTON - TALOGA 69KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48136	129.6231	G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.46196	128.8397	CANTON - OKEENE 69KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48084	125.1727	System Intact	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48183	123.6245	CRAWFISH765 765.00 - SEMINOLE765 765.00 765KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48636	123.5116	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48835	123.1698	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48636	123.16	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48636	122.949	IMO TAP - MEN TAP 138KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48835	122.7479	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.47321	122.0053	ALVA - CHEROKEE SW 69KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48136	121.4332	G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48807	121.2707	P12:138:WFEC:MSL14	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.46196	121.2648	CANTON - TALOGA 69KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48807	121.2004	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48171	121.0218	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48171	120.9515	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.47905	120.5935	NOBHILL (NOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.46196	120.2099	CANTON - OKEENE 69KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.2	0.48084	116.948	System Intact	
01ALL_2	3	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.1	0.53454	161.401	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	3	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.2	0.53153	151.2499	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	3	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.1	0.30766	104.2971	WOODWARD - WWPAR4 138.00 138KV CKT 1	
01ALL_2	3	20WP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.1	0.30766	104.2971	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	
00NR_1	0	20WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.6	1	136.1136	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_2	0	20WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.6	1	136.1136	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.8	1	134.5951	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	0	20WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.5	1	134.3171	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.5	1	134.3171	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	2	20WP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.9	1	134.151	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	OKEENE - WATONGA SW 69KV CKT 1	47.9	0.09545	106.4311	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.3	0.26826	159.9767	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.26826	159.7461	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.2	0.27026	159.404	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.3	0.27026	159.1739	DOVER SW - OKEENE 138KV CKT 1	
01ALL_1	2	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.2	0.26964	154.6654	DOVER SW - OKEENE 138KV CKT 1	
01ALL_1	2	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.3	0.26964	154.4422	DOVER SW - OKEENE 138KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.3	0.26826	152.6002	DOVER SW - OKEENE 138KV CKT 1	
01ALL_1	0	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.26826	152.3803	DOVER SW - OKEENE 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.26938	145.3295	DOVER SW - OKEENE 138KV CKT 1	
00NR_2	0	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.26938	145.1207	DOVER SW - OKEENE 138KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.5	0.26938	137.9676	DOVER SW - OKEENE 138KV CKT 1	
00NR_1	0	20WP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.6	0.26938	137.7694	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	249.8	0.18008	130.0194	System Intact	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.31304	127.645	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.23093	126.8962	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.20312	122.0214	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.20312	121.988	P12:138:WFEC:MSL14	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.20312	121.2542	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.25603	120.247	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.20312	119.7866	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.24313	116.8481	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.21796	116.0749	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.19587	115.1309	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	299.8	0.19587	114.7974	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.32177	113.7043	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	250	0.18809	112.9199	System Intact	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19876	111.5859	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19876	111.2192	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.19876	110.7192	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21148	108.775	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21148	108.7417	P12:138:WFEC:MSL14	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21148	107.975	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.21148	106.4083	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.26369	106.0616	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.22918	104.5182	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.20417	101.501	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.20417	101.101	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	20WP	FROM->TO	G16_107	WOODWARD - WWPAR4 138.00 138KV CKT 1	300	0.20713	100.0832	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.31304	133.4308	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.23093	132.6481	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.20312	127.5523	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.20312	127.5175	P12:138:WFEC:MSL14	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.20312	126.7504	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.25603	125.6975	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.20312	125.2162	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	287	0.24313	122.1408	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.21796	121.3363	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.19587	120.3496	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1	286.8	0.19587	120.0009	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.32177	118.8547	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.19876	116.6403	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.19876	116.257	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.19876	115.7344	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.21148	113.7021	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.21148	113.6673	P12:138:WFEC:MSL14	
01ALL_2	2	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.8	0.18008	113.2456	System Intact	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.21148	112.8659	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.21148	111.2282	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.26369	110.8658	DOVER SW - OKEENE 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.22918	109.2524	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.20417	106.0986	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.20417	105.6804	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.20713	104.6166	MOORELAND - TALOGA 138KV CKT 1	
01ALL_2	0	20WP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	287	0.19983	104.4368	P12:138:AEPW-WFEC:ELKCTY-4:RHWIND4	
00NR_2	0	25SP	TO->FROM	G16_107	CARMEN - EAGLE CHIEF 69KV CKT 1	16.6	0.05792	120.4036	DOVER SW - OKEENE 138KV CKT 1	
00NR_1	0	25SP	TO->FROM	G16_107	CARMEN - EAGLE CHIEF 69KV CKT 1	16.6	0.05792	111.5391	DOVER SW - OKEENE 138KV CKT 1	
01ALL_1	0	25SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.7	1	140.0154	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	141.7	1	140.0154	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
00NR_1	0	25SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.4	1	139.9565	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
00NR_2	0	25SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.4	1	139.9565	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_1	2	25SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.2	1	139.8044	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	2	25SP	TO->FROM	G16_107	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1	142.3	1	139.7764	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.19887	138.33	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.19887	138.33	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	143	0.13922	115.5749	System Intact	
01ALL_2	0	25SP	TO->FROM	G16_107	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	187	0.2462	112.6597	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.41721	111.4414	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.35936	110.8246	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.35936	110.8246	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.34664	109.8143	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.34664	109.44	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.34664	108.8161	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_1	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.41721	104.4089	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	
01ALL_1	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.34664	102.1714	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.35333	101.8943	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_1	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.34664	101.7971	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_1	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.34664	101.1733	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.34654	101.0392	P12:138:WFEC:MSL14	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.34654	100.9144	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.36045	100.8533	OKEENE - WATONGA SW 69KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.351	100.7557	FAIRVIEW - OKEENE 69KV CKT 1	
01ALL_2	0	25SP	TO->FROM	G16_107	DOVER SW - OKEENE 138KV CKT 1	160.3	0.34654	100.5401	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.49872	167.5736	WOODWARD - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.49872	167.5736	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48218	160.211	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48218	159.8562	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48218	159.2174	IMO TAP - MEN TAP 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.49316	157.0556	DGRASSE4 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48418	154.9776	BEARCAT 138.00 - MOORELAND 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48418	154.9776	P12:138:WFEC:MSL14	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48418	154.4099	BEARCAT 138.00 - NINE MILE 138KV CKT 1	
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48418	153.2743	MOREWOOD SW - NINE MILE 138KV CKT 1	
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48218	150.9976	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1	
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48218	150.6427	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48218	150.004		IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.45799	149.8885		CANTON - TALOGA 69KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48422	149.7326		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48422	149.2358		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.45799	148.753		CANTON - OKEENE 69KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.47075	148.4769		TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.46934	148.2141		ALVA - CHEROKEE SW 69KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.47757	147.9102		CHSHLMWEST 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.49872	146.8873		WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.49872	146.8873		WOODWARD EHV - WWP4 138.00 138KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.49316	146.0709		DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48418	145.588		BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48418	145.588		P12:138:WFEC:MSL14
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48418	145.0203		BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48418	143.8847		MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.45799	141.1783		CANTON - TALOGA 69KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.49228	140.4995		FPL SWITCH - WOODWARD 138KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.47075	140.4358		TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.48422	140.1719		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	1	140.0548		CEDARDALE - G16-107-TAP 138.00 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	1	140.0548		P12:138:WFEC:MSL12
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.45799	140.0427		CANTON - OKEENE 69KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.46934	140.0171		ALVA - CHEROKEE SW 69KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	140.9	0.47757	139.6729		CHSHLMWEST 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	1	137.806		CEDARDALE - PIC4 138.00 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	1	136.6114		MOORELAND - PIC4 138.00 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.50258	136.5228		WOODWARD - WWP4 138.00 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.50258	136.5228		WOODWARD EHV - WWP4 138.00 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4885	129.1585		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4883	129.0829		BEARCAT 138.00 - MOORELAND 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4883	129.0829		P12:138:WFEC:MSL14
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.48654	128.9445		CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4885	128.5963		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.48654	128.5931		CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4883	128.591		BEARCAT 138.00 - NINE MILE 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.48654	128.2417		IMO TAP - MEN TAP 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4883	127.6774		MOREWOOD SW - NINE MILE 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.48889	127.3138		MOORELAND - TALOGA 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.47345	127.1585		ALVA - CHEROKEE SW 69KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.47596	126.4866		WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.46217	126.1451		CANTON - TALOGA 69KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.48105	122.1996		System Intact
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.48654	119.8243		CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4883	119.7857		BEARCAT 138.00 - MOORELAND 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4883	119.7857		P12:138:WFEC:MSL14
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4885	119.6873		GLASS MOUNTAIN - MOORELAND 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.48654	119.4729		CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4883	119.2937		BEARCAT 138.00 - NINE MILE 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.4885	119.1251		CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.48654	119.1216		IMO TAP - MEN TAP 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.47345	119.0439		ALVA - CHEROKEE SW 69KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.47596	118.5492		WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.46217	117.5214		CANTON - TALOGA 69KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 1	142.3	0.48105	113.9807		System Intact
01ALL_2	3	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.53498	155.2043		G16-107-TAP 138.00 - OKEENE 138KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY	
						(MVA)	TDF	LOADING %	CONTINGENCY
01ALL_1	3	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.53197	145.0382	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	3	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.30793	101.5494	WOODWARD - WWP4 138.00 138KV CKT 1
01ALL_2	3	25SP	FROM->TO	G16_107	G16-107-TAP 138.00 - OKEENE 138KV CKT 2	142.3	0.30793	101.5494	WOODWARD EHV - WWP4 138.00 138KV CKT 1
00NR_1	0	25SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.6	1	136.324	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
00NR_2	0	25SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.6	1	136.324	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.8	1	135.0853	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	0	25SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.5	1	134.8785	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.5	1	134.8785	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_1	2	25SP	TO->FROM	G16_107	MOORELAND - PIC4 138.00 138KV CKT 1	142.8	1	134.8052	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.3	0.26841	160.7073	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.26841	160.4758	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.2	0.27041	159.9912	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.27041	159.5301	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.2	0.26979	155.3971	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	2	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.3	0.26979	155.1729	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.3	0.26841	153.3206	DOVER SW - OKEENE 138KV CKT 1
01ALL_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69.4	0.26841	153.0997	DOVER SW - OKEENE 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	0.26962	150.1628	DOVER SW - OKEENE 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69	0.26962	149.7275	DOVER SW - OKEENE 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	0.26962	142.726	DOVER SW - OKEENE 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69	0.26962	142.3123	DOVER SW - OKEENE 138KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	0.1183	109.2311	ALVA - CHEROKEE SW 69KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69	0.1183	108.9145	ALVA - CHEROKEE SW 69KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	0.1183	108.335	ALVA - CHEROKEE SW 69KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69	0.1183	108.021	ALVA - CHEROKEE SW 69KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	0.09626	102.4528	CANTON - TALOGA 69KV CKT 1
00NR_2	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69	0.09626	102.1558	CANTON - TALOGA 69KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	0.30778	101.7362	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	0.30778	101.5908	P12:138:WFEC:MSL12
00NR_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69	0.30778	101.4413	CEDARDALE - G16-107-TAP 138.00 138KV CKT 1
00NR_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	69	0.30778	101.2964	P12:138:WFEC:MSL12
00NR_1	0	25SP	FROM->TO	G16_107	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1	68.8	0.30778	100.1374	CEDARDALE - PIC4 138.00 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	248.8	0.1805	135.4503	System Intact
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299	0.31358	131.3587	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299	0.23166	130.5215	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299	0.20349	129.4256	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299	0.20349	129.3921	P12:138:WFEC:MSL14
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299	0.20349	128.6563	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299	0.20349	126.9841	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299	0.25654	123.6686	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299	0.21851	121.2316	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.2439	120.4907	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299	0.19642	118.8135	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	249.6	0.18852	118.2739	System Intact
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.32232	117.4576	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.21185	116.2842	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.21185	116.2174	P12:138:WFEC:MSL14
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.21185	115.4831	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.19928	115.2291	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.19928	114.8285	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.19928	114.2611	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.21185	113.6807	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.22976	109.7659	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.26422	109.5329	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4 138.00 138KV CKT 1	299.6	0.20024	105.8469	P12:138:AEPW-WFEC:ELKCTY-4:RHVWIND4

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.20474	105.1735	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.20769	104.9221	MOORELAND - TALOGA 138KV CKT 1
01ALL_2	0	25SP	FROM->TO	G16_107	WOODWARD - WWP4R4 138.00 138KV CKT 1	299.6	0.20024	104.6787	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.31358	137.3295	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.23166	136.4543	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.20349	135.3085	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.20349	135.2736	P12:138:WFEC:MSL14
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.20349	134.5043	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.20349	132.7561	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.25654	129.2899	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.21851	126.7421	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.2439	125.9561	DGRASSE4 138.00 - MOORELAND 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.19642	124.2141	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.32232	122.7854	G16-107-TAP 138.00 - OKEENE 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.21185	121.5587	BEARCAT 138.00 - MOORELAND 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.21185	121.4889	P12:138:WFEC:MSL14
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.21185	120.7213	BEARCAT 138.00 - NINE MILE 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.19928	120.4558	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.19928	120.0371	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.19928	119.4439	IMO TAP - MEN TAP 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.21185	118.8372	MOREWOOD SW - NINE MILE 138KV CKT 1
01ALL_2	2	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286	0.1805	117.8323	System Intact
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.22976	114.7448	DGRASSE7 345.00 (DEGRASSE T1) 345/138/13.8KV TRANSFORMER CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.26422	114.5013	DOVER SW - OKEENE 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.20024	110.648	P12:138:AEPW-WFEC:ELKCTY-4:RHWIN4
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.20474	109.9441	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.20769	109.6813	MOORELAND - TALOGA 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.20024	109.4268	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1
01ALL_2	0	25SP	TO->FROM	G16_107	WOODWARD EHV - WWP4R4 138.00 138KV CKT 1	286.6	0.18852	103.0048	System Intact
09ALL_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.2	0.20396	188.9718	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.20102	165.9912	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84.1	0.08956	164.9518	System Intact
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.12635	162.3699	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.12635	162.2603	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.12635	162.2603	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.12635	158.2033	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.12635	154.6945	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.08203	150.585	KELLY - S1399 5 161KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.08203	144.8833	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.08203	144.5543	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.08203	144.4447	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	85.1	0.0865	141.354	System Intact
09ALL_17	2	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84.9	0.07617	140.9396	System Intact
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.08654	140.9164	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.09666	137.8902	BEATRICE - STEINAUER 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.09666	137.6709	P12:115:NPPD:1176:BEATRICE7:HUMBOLT7:BTB
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.08775	137.6196	COOPER - MOORE 345KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.08718	137.3421	P12:230:MKEC:ELMCREEK-NORTHMANHATTAN::
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.07711	136.2807	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.0812	136.2479	P12:161:OPPD:S1280-COOPER
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.06684	131.8652	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.06684	131.8652	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	16WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.06647	129.385	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.20396	187.2665	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.20102	164.3073	BEATRICE - HARBINE 115KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		LOADING %	CONTINGENCY
						(MVA)	TDF		
09ALL_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	83.7	0.08956	163.3506	System Intact
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.12635	160.6821	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.12635	160.6821	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.12635	160.6821	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.12635	156.6206	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.12635	153.108	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.08203	148.8842	KELLY - S1399 5 161KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.08203	143.286	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.08203	142.8469	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.08203	142.8469	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	85	0.0865	139.5203	System Intact
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.08654	139.205	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	2	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.6	0.07617	139.0754	System Intact
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.09666	136.1755	BEATRICE - STEINAUER 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.09666	136.0657	P12:115:NPPD:1176:BEATRICE7:HUMBOLT7:BTB
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.08775	135.9046	COOPER - MOORE 345KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.08718	135.6268	P12:230:MKEC:ELMCREEK-NORTHMANHATTAN::
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.0812	134.6412	P12:161:OPPD:S1280-COOPER
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.07711	134.5642	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.06684	130.2536	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.06684	130.1439	P12:161:WERE:OPPD:S1399-KELLY
00NR_17	0	16WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.06647	127.661	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.55807	180.7285	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.48006	179.9232	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.48006	179.1093	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.56641	173.1897	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.56721	172.7042	KNOB HILL - STEELE CITY 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47935	170.3005	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47935	169.6907	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.48006	164.562	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.73015	161.9458	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47935	154.2436	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.72146	153.7805	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.47171	149.8415	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.47171	149.8415	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.47171	149.8415	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.55358	148.3808	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.47171	148.1121	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.44587	148.0002	G15088_T 345.00 - MOORE 345KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44471	147.8343	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.47171	146.1793	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44507	143.856	MCCOOL - MOORE 345KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.55358	143.5995	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.48006	143.1169	P12:115:WERE:MARS-SSEN_115::
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.48006	142.8698	P12:115:WERE:MARS-SSEN_115::
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.44738	142.5771	MCCOOL - MOORE 345KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.48006	141.3792	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.54772	141.118	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.55551	140.9707	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.48071	140.7222	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44157	140.6317	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.4544	139.9341	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46919	139.69	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46919	139.69	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46919	139.69	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.4544	139.6292		BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46199	137.8276		P12:115:WERE:KNOB-MKEC_115::
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46199	137.8276		P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46199	137.726		GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46919	137.4542		CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.44974	137.0837		CRETE - FRIEND 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44933	136.6353		CRETE - FRIEND 115KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.54772	136.4432		CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.44587	136.403		G15088_T 345.00 - PAULINE 345KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44471	136.3506		G15088_T 345.00 - PAULINE 345KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46199	136.3032		CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44305	135.6147		MCCOOL - MOORE 345KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46919	135.5233		P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.47171	135.414		P14:035:NPPD:FAIRBRYG:CAP
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.46199	134.7788		P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.45035	134.5523		P13:115-345:NPPD:PAULINE3:T1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.55807	133.8789		HARBINE - STEELE CITY 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47935	133.4336		P12:115:WERE:IMARS-SEEN_115::
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44933	133.1335		P14:035:NPPD:FAIRBRYG:CAP
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.4544	133.1252		KELLY - SOUTH SENECA 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47935	131.6977		MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44933	131.4524		P12:115:NPPD:1259A:CRETE_7:GENEVA 7:BTB
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.4454	130.342		CRETE - FRIEND 115KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44157	129.4528		G15088_T 345.00 - PAULINE 345KV CKT 1
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44157	128.8171		P14:035:NPPD:FAIRBRYG:CAP
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44602	127.9325		PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47935	125.905		KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.4455	125.4445		System Intact
00NR_17	0	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44597	123.1742		System Intact
09ALL_17	2	16WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44124	118.9593		System Intact
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	95.2	0.99451	124.3709		P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
00NR_17	2	16WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.1	0.99451	124.2467		P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	95.9	0.99934	124.1907		P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	95.9	0.99934	124.1907		P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	95.2	0.99451	115.5353		FAIRBURY - HARBINE 115KV CKT 1
00NR_17	2	16WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.1	0.99451	115.4938		FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	95.9	0.99934	112.2149		FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	95.9	0.99934	112.1106		FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.99934	178.8186		G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.99934	178.7137		G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.60569	170.9249		G15088_T 345.00 - MOORE 345KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.75165	170.4914		CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.6059	170.3375		MCCOOL - MOORE 345KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.60691	162.5599		S.FLATS.PLT115.00 - STEELE CITY 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.60691	162.5599		S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.61045	160.7144		CRETE - FRIEND 115KV CKT 1
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.76262	160.7012		CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.61045	160.3283		P14:035:NPPD:FAIRBRYG:CAP
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.76189	159.801		CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.60569	159.2352		G15088_T 345.00 - PAULINE 345KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.61209	157.6162		P13:115-345:NPPD:PAULINE3:T1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.61209	157.6162		PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.76262	154.1954		CARLTON JUNCTION - GENEVA 115KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.61014	153.7134		CRETE - SHELDON 115KV CKT 1
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.76189	153.2952		CARLTON JUNCTION - GENEVA 115KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.60651	153.2592	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62035	152.6967	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.61045	152.2128	P12:115:NPPD:1259A:CRETE_7:GENEVA 7:BTB	
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.60691	151.3976	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.61944	151.029	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.6067	150.5581	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62211	150.0217	MCCOOL - MOORE 345KV CKT 1	
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.60535	149.9777	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.5976	149.2511	MOORE (MOORE T1) 345/115/13.8KV TRANSFORMER CKT 1	
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.5976	149.2511	P13:115-345:NPPD:MOORE 3:T1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.6212	148.4711	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62001	146.8925	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62001	146.8925	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.1	0.60691	145.8755	System Intact	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.61908	145.6201	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.61908	145.6201	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62035	144.2692	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62674	143.1004	P13:115-345:NPPD:PAULINE3:T1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62674	143.1004	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.60625	142.7869	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62445	142.6337	CRETE - FRIEND 115KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62266	142.1748	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62581	141.6304	P13:115-345:NPPD:PAULINE3:T1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62581	141.6304	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62354	141.188	CRETE - FRIEND 115KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62035	141.0493	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62175	140.8718	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.61944	139.4865	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62124	138.5521	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62001	137.4896	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.64602	137.2969	GENEVA - MCCOOL 115KV CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62032	137.2613	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.61908	136.0073	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.64509	135.8819	GENEVA - MCCOOL 115KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62442	135.4738	CRETE - SHELDON 115KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62001	135.4549	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62266	135.0395	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62073	134.8061	P12:345:SUNC:MINGO-SETAB::531451-531465(1)	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.61908	134.7072	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62351	134.0282	CRETE - SHELDON 115KV CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62175	133.6315	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.6198	133.3115	P12:345:SUNC:MINGO-SETAB::531451-531465(1)	
09ALL_17	2	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.62001	129.9985	System Intact	
09ALL_17	0	16WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.3	0.61908	128.5162	System Intact	
09ALL_17	0	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.99934	184.1082	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	2	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.99934	184.007	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	2	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99451	182.812	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	0	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.99451	182.2885	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	2	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99451	174.307	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	0	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.99451	173.7749	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.99934	172.4839	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.99934	172.3827	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	0	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.6318	118.9608	BEATRICE - HARBINE 115KV CKT 1	
09ALL_17	2	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.61864	111.1959	BEATRICE - HARBINE 115KV CKT 1	
00NR_17	0	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.6394	104.1494	BEATRICE - HARBINE 115KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	2	16WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.633	101.7731		BEATRICE - HARBINE 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.12651	188.9326		GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.12651	188.8216		P12:115:WERE:KNOB-MKEC_115::
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.12651	188.8216		P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.12651	185.381		CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	89.7	0.20397	185.2314		BEATRICE - HARBINE 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.12651	181.4964		P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.20118	176.6126		BEATRICE - HARBINE 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.08214	164.3317		KELLY - S1399 5 161KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	83.5	0.08965	163.5582		System Intact
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84	0.08663	153.6041		System Intact
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.08666	152.446		HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.08214	149.6813		HUMBOLDT - S1398 5 161.00 161KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.08214	149.4593		P12:161:OPPD:HUMBOLT-S1398-S1399
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.08214	149.4593		S1398 5 161.00 - S1399 5 161KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.08792	148.5671		COOPER - MOORE 345KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.08536	148.496		HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.09681	148.3905		BEATRICE - STEINAUER 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.08663	148.0882		P13:34.5-161:OPPD:FLTWTR TFM R
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.08663	148.0882		S1399 5 (FLTWTR TFM R) 161/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	2	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84.5	0.07636	146.3533		System Intact
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.06693	142.1614		P12:161:WERE:TECH-KELL-OPPD_161::
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.06693	142.1614		P12:161:WERE-OPPD:S1399-KELLY
09NR_17	0	17G	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.1	0.06656	139.318		KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.12651	187.1139		GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.12651	187.1139		P12:115:WERE:KNOB-MKEC_115::
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.12651	187.1139		P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.2	0.20397	183.6912		BEATRICE - HARBINE 115KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.12651	183.6618		CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.12651	179.6529		P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.20118	174.8641		BEATRICE - HARBINE 115KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.08214	162.5421		KELLY - S1399 5 161KV CKT 1
09ALL_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	83	0.08965	161.7724		System Intact
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	83.7	0.08663	151.6457		System Intact
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.08666	150.6167		HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.08214	147.8428		HUMBOLDT - S1398 5 161.00 161KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.08214	147.6201		P12:161:OPPD:HUMBOLT-S1398-S1399
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.08214	147.6201		S1398 5 161.00 - S1399 5 161KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.08536	146.6536		HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.08792	146.6135		COOPER - MOORE 345KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.09681	146.5477		BEATRICE - STEINAUER 115KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.08663	146.2444		P13:34.5-161:OPPD:FLTWTR TFM R
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.08663	146.2444		S1399 5 (FLTWTR TFM R) 161/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	2	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.1	0.07636	144.3145		System Intact
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.06693	140.2978		P12:161:WERE:TECH-KELL-OPPD_161::
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.06693	140.2978		P12:161:WERE-OPPD:S1399-KELLY
09NR_17	0	17G	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.06656	137.4449		KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.56649	174.7641		KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	2	17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.5673	174.6897		KNOB HILL - STEELE CITY 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.55835	171.1408		KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47981	170.2317		BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47981	169.3199		BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47953	169.2314		BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47953	168.4208		BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47981	154.3249		KELLY - SOUTH SENECA 115KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47953	153.4259	KELLY - SOUTH SENECA 115KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.73587	151.6691	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.72962	146.792	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47157	145.3015	P12:115:WERE:KNOB-MKEC_115::
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47157	145.3015	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47157	145.2002	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47157	143.2752	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.46935	143.0616	GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.46935	143.0616	P12:115:WERE:KNOB-MKEC_115::
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.46935	143.0616	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47157	141.1475	P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.46935	141.1366	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.72096	140.8243	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44492	140.2538	G15088_T 345.00 - MOORE 345KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.55555	140.2502	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.46935	139.1103	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44562	138.3369	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.5532	137.9299	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.55555	136.5014	CARLTON JUNCTION - GENEVA 115KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44529	135.6797	MCCOOL - MOORE 345KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.46186	134.7696	P12:115:WERE:KNOB-MKEC_115::
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.46186	134.7696	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.46186	134.6684	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.5532	134.0798	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44722	133.9007	MCCOOL - MOORE 345KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.45419	133.6768	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47981	133.5805	P12:115:WERE:MARS-SSEN_115::
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.45419	133.272	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47981	133.2429	P12:115:WERE:MARS-SSEN_115::
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.46186	133.049	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44135	132.8475	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.54737	132.5525	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47953	132.4766	P12:115:WERE:MARS-SSEN_115::
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47981	131.9512	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.48047	131.4076	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.46186	131.3283	P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44954	130.9125	CRETE - FRIEND 115KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47953	130.8442	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.56649	130.1845	HARBINE - STEELE CITY 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.5673	129.6492	HARBINE - STEELE CITY 115KV CKT 1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44948	129.187	CRETE - FRIEND 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.54737	128.8076	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44292	128.7136	MCCOOL - MOORE 345KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44492	128.7037	G15088_T 345.00 - PAULINE 345KV CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.45002	127.7535	P13:115-345:NPPD:PAULINE3:T1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.45009	126.8626	P13:115-345:NPPD:PAULINE3:T1
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.45009	126.8626	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.55835	126.6626	HARBINE - STEELE CITY 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.45419	126.5918	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44518	124.3142	CRETE - FRIEND 115KV CKT 1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4458	122.0216	P13:115-345:NPPD:PAULINE3:T1
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4458	122.0216	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09NR_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44611	118.7887	System Intact
09ALL_17		0 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44522	116.7726	System Intact
09ALL_17		2 17G	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.441	112.0608	System Intact

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
09NR_17	0	17G	FROM->TO	G16_109	CLIFTON - CONCORDIA 115KV CKT 1	122.3	0.1144	101.2007	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	CLIFTON - CONCORDIA 115KV CKT 1	122.3	0.1144	100.383	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.5	0.99433	123.1099	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09NR_17	2	17G	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.2	0.99433	123.0464	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.5	0.99923	123.004	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.7	0.99923	122.7496	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.5	0.99923	116.3212	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.7	0.99923	116.0806	FAIRBURY - HARBINE 115KV CKT 1	
09NR_17	2	17G	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.2	0.99433	114.1356	FAIRBURY - HARBINE 115KV CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.5	0.99433	114.1345	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.99923	181.6337	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.99923	181.2565	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.99433	179.5419	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.76271	169.8238	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.76199	168.6841	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.76271	164.725	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.75184	163.6712	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.76199	163.5958	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.6206	163.1217	G15088_T 345.00 - MOORE 345KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62248	161.5823	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.6197	161.4561	G15088_T 345.00 - MOORE 345KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62157	159.9199	MCCOOL - MOORE 345KV CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.75184	158.4683	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62024	158.4003	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62024	158.4003	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61932	157.0197	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61932	157.0197	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62304	156.2001	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.627	156.0047	P13:115-345:NPPD:PAULINE3:T1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.627	156.0047	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60609	155.7311	G15088_T 345.00 - MOORE 345KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62471	155.0154	CRETE - FRIEND 115KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62214	154.9038	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62607	154.4396	P13:115-345:NPPD:PAULINE3:T1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62607	154.4396	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60631	154.0143	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.6238	153.5804	CRETE - FRIEND 115KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62023	152.8852	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.6206	151.5712	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.6173	151.4123	P14:035:NPPD:FAIRBRYG:CAP	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60724	151.369	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60724	151.369	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62159	151.1326	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.6197	150.0335	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62068	149.7611	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62304	149.1242	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62466	148.0192	CRETE - SHELDON 115KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62214	147.7387	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.61085	147.5051	CRETE - FRIEND 115KV CKT 1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.61268	147.2287	P13:115-345:NPPD:PAULINE3:T1	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.61268	147.2287	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62024	146.9539	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62102	146.6529	P12:345:SUNC:MINGO-SETAB::531451-531465(1)	
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60687	146.6384	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62376	146.495	CRETE - SHELDON 115KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62078	146.4266	GERALD GENTLEMAN STATION - RED WILLOW 345KV CKT 1
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62054	146.3902	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61932	146.2202	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60687	145.6458	P14:035:NPPD:FAIRBRYG:CAP
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.6201	145.1929	P12:345:SUNC:MINGO-SETAB::531451-531465(1)
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61961	145.0285	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61987	144.9671	GERALD GENTLEMAN STATION - RED WILLOW 345KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60609	144.2847	G15088_T 345.00 - PAULINE 345KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60567	142.1673	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)
09ALL_17	2	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.62024	141.6469	System Intact
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.63346	141.282	GENEVA - MCCOOL 115KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.61054	140.4356	CRETE - SHELDON 115KV CKT 1
09ALL_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61932	140.0935	System Intact
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60724	139.9522	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60687	139.4583	AXTELL - G16-050-TAP 345.00 345KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60724	139.4023	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60704	138.9926	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1
09NR_17	0	17G	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.1	0.60724	134.4075	System Intact
09NR_17	2	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99433	183.5365	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09NR_17	0	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99433	183.2165	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	0	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99923	183.012	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	2	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99923	183.012	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	0	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99923	176.4914	FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	2	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99923	176.4914	FAIRBURY - HARBINE 115KV CKT 1
09NR_17	2	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99433	174.8887	FAIRBURY - HARBINE 115KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99433	174.4588	FAIRBURY - HARBINE 115KV CKT 1
09NR_17	0	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.63897	110.7953	BEATRICE - HARBINE 115KV CKT 1
09NR_17	2	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.63257	108.0047	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	17G	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.63129	105.8056	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.20397	166.0378	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84.3	0.08968	147.1988	System Intact
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.12553	144.4861	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.12553	144.4861	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.12553	144.4861	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.12553	140.2377	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.20094	137.8655	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.12553	135.2268	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.08143	133.502	KELLY - S1399 5 161KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84.8	0.07647	132.4609	System Intact
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.08143	130.234	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.08143	129.7983	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.08143	129.7983	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.08598	129.1412	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.08471	122.0092	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	85.8	0.08595	120.196	System Intact
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.07671	119.4639	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.13841	119.4188	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.06635	118.4254	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.06635	118.4254	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.08081	118.3484	P12:161:OPPD:S1280-COOPER
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.0959	116.5907	BEATRICE - STEINAUER 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.0959	116.4818	P12:115:NPPD:1176:BEATRICE7:HUMBOLT7:BTB
00NR_17	0	17SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.8	0.06598	115.9615	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.2	0.20397	163.7076	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.1	0.08968	144.5762	System Intact

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY	
						(MVA)	TDF	LOADING %	CONTINGENCY
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.12553	142.0896	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.12553	141.9806	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.12553	141.9806	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.12553	137.8412	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.20094	135.3601	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.12553	132.8303	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.08143	130.9965	KELLY - S1399 5 161KV CKT 1
09ALL_17	2	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.6	0.07647	129.7008	System Intact
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.08143	127.7285	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.08143	127.4017	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.08143	127.2928	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.08598	126.7447	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.08471	119.6127	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	85.8	0.08595	117.5154	System Intact
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.13841	117.0223	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.07671	116.9585	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.06635	116.0289	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.08081	115.9519	P12:161:OPPD:S1280-COOPER
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.06635	115.92	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.0959	114.1942	BEATRICE - STEINAUER 115KV CKT 1
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.0959	114.0852	P12:115:NPPD:1176:BEATRICE7:HUMBOLT7:BTB
00NR_17	0	17SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.06598	113.456	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.56657	154.3856	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.56738	154.3319	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47979	151.5195	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47979	150.5073	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.55929	148.7762	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.72974	143.7908	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.72112	138.4506	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47979	133.6045	KELLY - SOUTH SENECA 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.48107	132.5998	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.48107	131.6907	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47158	129.478	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47158	129.478	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47158	129.478	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.73775	129.0386	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.55321	128.4903	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47158	127.6561	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47158	124.9233	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.54741	123.8476	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44552	122.4496	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.4619	119.9898	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.4619	119.9898	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.4619	119.9898	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.45421	118.5889	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.4619	118.4731	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.45421	118.1844	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.55321	117.964	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.44128	117.7073	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4452	116.9463	P14:035:NPPD:FAIRBYG:CAP
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44709	116.2796	MCCOOL - MOORE 345KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.4619	116.2486	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47979	115.0243	P12:115:WERE:MARS-SSEN_115::
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.47979	114.8069	P12:115:WERE:MARS-SSEN_115::
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.48107	114.1149	KELLY - SOUTH SENECA 115KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.55749	114.0357	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.54741	113.433	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47979	113.3965	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.48045	112.8724	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.441	112.6612	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44944	112.6358	CRETE - FRIEND 115KV CKT 1	
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4452	112.0036	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.44281	111.841	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4452	111.4807	COUNCIL BLUFFS 345/26.0KV TRANSFORMER CKT 1	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.44674	111.2736	G15088_T 345.00 - MOORE 345KV CKT 1	
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.45421	110.601	KELLY - SOUTH SENECA 115KV CKT 1	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.47098	109.8782	P12:115:WERE:KNOB-MKEC_115::	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.47098	109.8782	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.47098	109.7772	GREENLEAF - KNOB HILL 115KV CKT 1	
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.44516	108.4091	CRETE - FRIEND 115KV CKT 1	
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.441	107.8187	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.47098	107.5549	CLIFTON - GREENLEAF 115KV CKT 1	
09ALL_17	2	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.9	0.56738	107.4158	HARBINE - STEELE CITY 115KV CKT 1	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.44702	106.3866	MCCOOL - MOORE 345KV CKT 1	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.45057	106.2371	P14:035:NPPD:FAIRBRYG:CAP	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.47098	104.8277	P12:115:MKEC:CONCORDIA-CLIFTON::	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.55929	104.6348	HARBINE - STEELE CITY 115KV CKT 1	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.44792	103.4687	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.55749	103.4296	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4452	103.0799	System Intact	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.45156	102.1267	CRETE - FRIEND 115KV CKT 1	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.44792	100.6816	COUNCIL BLUFFS 345/26.0KV TRANSFORMER CKT 1	
00NR_17	0	17SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.44833	100.4222	HOYT - STRANGER CREEK 345KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.3	0.99955	122.7121	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.3	0.99955	122.7121	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	2	17SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.9	0.99498	122.3709	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.6	0.99498	122.2347	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.3	0.99955	102.5101	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.3	0.99955	102.5101	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.99955	171.8801	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.99955	171.413	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.99498	165.4698	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.76287	150.8314	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.76215	149.8274	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.75257	144.2247	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.76287	136.2744	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62035	136.1675	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62064	135.8473	G15088_T 345.00 - MOORE 345KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.76215	135.3011	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61943	134.8149	P14:035:NPPD:FAIRBRYG:CAP	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60744	134.4819	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61974	134.4208	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60665	133.6362	G15088_T 345.00 - MOORE 345KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62035	133.1084	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62035	133.1084	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61943	131.9728	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61943	131.9728	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62247	131.6128	MCCOOL - MOORE 345KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60779	131.0155	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60779	131.0155	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60677	130.927	MCCOOL - MOORE 345KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60779	130.5052	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.62157	130.3188	MCCOOL - MOORE 345KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.75257	129.7289	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.6231	129.5754	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62035	128.9496	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.62221	128.4288	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61943	127.7236	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.6248	126.6058	CRETE - FRIEND 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.6271	126.1379	P13:115-345:NPPD:PAULINE3:T1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.6271	126.1379	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.6239	125.3224	CRETE - FRIEND 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62163	125.276	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.61163	125.19	CRETE - FRIEND 115KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.62618	124.831	P13:115-345:NPPD:PAULINE3:T1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.62618	124.831	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.62073	124.1508	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62064	124.033	G15088_T 345.00 - PAULINE 345KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60737	123.7038	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61974	122.7366	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.6231	122.4024	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.60566	122.1865	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60665	121.9765	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.606	121.7995	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62035	121.6105	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62086	121.585	GERALD GENTLEMAN STATION - RED WILLOW 345KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62035	121.505	CARLTON JUNCTION (CARLN.JCT T2) 115/69/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.62221	121.1656	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61943	121.0254	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61995	120.3684	GERALD GENTLEMAN STATION - RED WILLOW 345KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61943	120.2886	CARLTON JUNCTION (CARLN.JCT T2) 115/69/13.8KV TRANSFORMER CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60779	119.9861	CARLTON JUNCTION (CARLN.JCT T2) 115/69/13.8KV TRANSFORMER CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60759	119.7825	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60626	119.7433	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.6129	119.5916	P13:115-345:NPPD:PAULINE3:T1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.6129	119.5916	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60779	119.1457	GENEVA (GENEVA T2) 115/69/13.8KV TRANSFORMER CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60779	119.1457	P14:069:NPPD:GENEVA 8:CAP	
09ALL_17	2	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	94.8	0.62035	116.1253	System Intact	
09ALL_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95	0.61943	114.8149	System Intact	
00NR_17	0	17SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.2	0.60779	114.5239	System Intact	
09ALL_17	2	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99955	184.6298	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	0	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99955	184.5287	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	2	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99498	184.1425	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	0	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99498	184.0253	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	2	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99955	164.7547	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99955	164.6536	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	2	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99498	159.4215	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99498	159.2794	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	0	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.63148	112.4958	BEATRICE - HARBINE 115KV CKT 1	
09ALL_17	2	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.61837	107.0939	BEATRICE - HARBINE 115KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.64008	101.3163	BEATRICE - HARBINE 115KV CKT 1	
09NR_17	0	20L	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.12762	193.0189	GREENLEAF - KNOB HILL 115KV CKT 1	
09NR_17	0	20L	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.12762	192.9087	P12:115:WERE:KNOB-MKEC_115::	
09NR_17	0	20L	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.12762	192.9087	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.73583	142.241	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.72203	135.6649	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47197	133.8949	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47197	133.8949	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47197	133.8949	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47197	132.6753	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47197	131.6591	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.55412	130.713	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47139	130.5711	GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47139	130.5711	P12:115:WERE:KNOB-MKEC_115::
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47139	130.5711	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.55735	129.6045	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47139	129.3516	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.47139	128.4369	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.55412	127.2577	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44632	126.8064	G15088_T 345.00 - MOORE 345KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44822	126.5936	G15088_T 345.00 - MOORE 345KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.55735	126.0476	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.48042	125.031	P12:115:WERE:MARS-SSEN_115::
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.48042	124.701	P12:115:WERE:MARS-SSEN_115::
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.54817	124.1566	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.48042	123.3306	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.45468	122.891	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.48105	122.7942	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.45468	122.688	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.48227	122.3593	P12:115:WERE:MARS-SSEN_115::
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.46218	122.1842	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.46218	122.1842	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.46218	122.1842	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.46218	121.169	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44775	120.9467	MCCOOL - MOORE 345KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44892	120.8873	MCCOOL - MOORE 345KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.48227	120.659	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.54817	120.6033	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.46218	120.3568	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44194	120.2554	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.56632	119.3738	HARBINE - STEELE CITY 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.56709	118.633	HARBINE - STEELE CITY 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.56115	118.3237	HARBINE - STEELE CITY 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.45468	117.9164	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.45018	117.8496	CRETE - FRIEND 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.45072	117.3178	P13:115-345:NPPD:PAULINE3:T1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.45072	117.3178	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.45222	117.2455	CRETE - FRIEND 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.45265	115.8942	P13:115-345:NPPD:PAULINE3:T1
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.45265	115.8942	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44334	114.7003	MCCOOL - MOORE 345KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44576	111.7138	CRETE - FRIEND 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44631	111.3077	P13:115-345:NPPD:PAULINE3:T1
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44631	111.3077	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.44593	107.1369	System Intact
09NR_17	0	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.4	0.4483	106.5677	System Intact
09ALL_17	2	20L	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44159	101.2624	System Intact
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.04444	122.4025	KELLY - TECUMSEH HILL 161KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.04444	121.2865	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.03321	105.3124	COOPER - ST JOE 345KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.04823	104.677	GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.04823	104.5654	P12:115:WERE:KNOB-MKEC_115::
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.04823	104.5654	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.04823	103.8958	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.04823	103.2262	P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.06758	103.133	P12:161:WERE-OPPD:S1399-KELLY
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.06758	103.0214	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	82.8	0.0459	101.8795	System Intact
09NR_17	0	20L	TO->FROM	G16_109	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.06726	100.0603	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09NR_17	0	20L	FROM->TO	G16_109	CLIFTON - CONCORDIA 115KV CKT 1	122.2	0.11451	107.1464	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	CLIFTON - CONCORDIA 115KV CKT 1	122.2	0.11451	106.6554	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.3	0.99447	122.3033	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.3	0.99938	122.301	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09NR_17	2	20L	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.8	0.99447	122.2915	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.4	0.99938	122.1754	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.3	0.99938	110.5215	FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.4	0.99938	110.408	FAIRBURY - HARBINE 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.8	0.99447	109.1828	FAIRBURY - HARBINE 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	97.3	0.99447	109.1272	FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.99938	178.3638	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.99938	177.9911	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.99447	176.8385	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.76247	161.8437	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.76173	160.7136	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.75443	159.002	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.76247	157.027	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.76173	155.9069	CARLTON JUNCTION - GENEVA 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.75443	154.1853	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62005	150.2104	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61913	148.3403	G15088_T 345.00 - MOORE 345KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61023	147.8195	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6197	147.1591	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6197	147.1591	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62174	146.3525	MCCOOL - MOORE 345KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61875	145.6768	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61875	145.6768	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62634	144.7922	P13:115-345:NPPD:PAULINE3:T1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62634	144.7922	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62081	144.7055	MCCOOL - MOORE 345KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6103	144.6755	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6103	144.6755	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61101	144.2712	MCCOOL - MOORE 345KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.6254	143.1301	P13:115-345:NPPD:PAULINE3:T1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.6254	143.1301	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62222	142.1992	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62416	141.856	CRETE - FRIEND 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61635	141.0105	P13:115-345:NPPD:PAULINE3:T1
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61635	141.0105	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62129	140.5983	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.64572	140.3001	GENEVA - MCCOOL 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62323	140.2244	CRETE - FRIEND 115KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62416	139.4105	P14:035:NPPD:FAIRBRYG:CAP
09NR_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61443	139.1637	CRETE - FRIEND 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.64478	138.7023	GENEVA - MCCOOL 115KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
09ALL_17		2 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62005	138.4826	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17		2 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6197	137.7576	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62323	137.7353	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17		2 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62397	137.5576	CRETE - SHELDON 115KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61028	137.5125	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.63663	137.3831	GENEVA - MCCOOL 115KV CKT 1	
09ALL_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61913	136.846	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17		2 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62087	136.8345	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61028	136.7174	P14:035:NPPD:FAIRBRYG:CAP	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61023	136.1965	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61875	136.092	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6103	135.9896	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62304	135.8245	CRETE - SHELDON 115KV CKT 1	
09ALL_17		2 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6197	135.7455	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09ALL_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61993	135.2631	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09ALL_17		2 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62222	135.1835	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.614	134.8402	CRETE - SHELDON 115KV CKT 1	
09ALL_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61875	134.8095	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09ALL_17		2 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62039	134.4636	P12:345:SUNC:MINGO-SETAB::531451-531465(1)	
09ALL_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62129	133.4928	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
09ALL_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61944	132.9033	P12:345:SUNC:MINGO-SETAB::531451-531465(1)	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6103	132.7383	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.60927	132.4373	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6102	131.8577	FTTHOM2-LNX3345.00 - GRPRAR2-LNX3345.00 345KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6102	131.8577	GRPRAR2-LNX3345.00 - YANKTON 345KV CKT Z	
09ALL_17		2 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6197	130.3005	System Intact	
09ALL_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61875	128.6444	System Intact	
09NR_17		0 20L	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6103	127.6074	System Intact	
09NR_17		2 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99447	183.9405	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17		0 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99938	183.6353	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17		2 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99938	183.6353	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09NR_17		0 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99447	183.5365	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17		0 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99938	172.058	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17		2 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99938	172.058	FAIRBURY - HARBINE 115KV CKT 1	
09NR_17		2 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99447	170.9907	FAIRBURY - HARBINE 115KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99447	170.5867	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17		0 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.63233	107.8449	BEATRICE - HARBINE 115KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.63721	107.2273	BEATRICE - HARBINE 115KV CKT 1	
09NR_17		2 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.63077	104.2367	BEATRICE - HARBINE 115KV CKT 1	
09ALL_17		2 20L	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.61913	100.9813	BEATRICE - HARBINE 115KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.04444	124.7212	KELLY - TECUMSEH HILL 161KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.04444	123.7267	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.03321	107.801	COOPER - ST JOE 345KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.04823	107.172	GREENLEAF - KNOB HILL 115KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.04823	107.0615	P12:115:WERE:KNOB-MKEC_115::	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.04823	107.0615	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.04823	106.3985	CLIFTON - GREENLEAF 115KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.04823	105.7355	P12:115:MKEC:CONCORDIA-CLIFTON::	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.06758	105.6433	P12:161:WERE:TECH-KELL-OPPD_161::	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.06758	105.6433	P12:161:WERE-OPPD:S1399-KELLY	
09ALL_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	84.1	0.0459	104.3475	System Intact	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.06726	102.7117	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.03436	101.9689	G15-005T 345.00 - SIBLEY 345KV CKT 1	
09ALL_17		2 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	84.3	0.0439	101.5315	System Intact	
09NR_17		0 20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.03436	100.9744	G14-021T 345.00 - MULLNCR7 345.00 345KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY LOADING %	CONTINGENCY
						(MVA)	TDF		
09NR_17	0	20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.03436	100.8639	G15-005T 345.00 - MULLNCR7 345.00 345KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.03378	100.3608	COOPER - FAIRPORT 345KV CKT 1
09NR_17	3	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.04337	114.1747	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.04412	113.9912	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	3	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.04337	113.8117	P12:115:WERE:HOYT-KELL_115::
09NR_17	3	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.04337	113.721	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.04412	113.6279	P12:115:WERE:HOYT-KELL_115::
09NR_17	2	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.04412	113.5371	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.04408	113.4462	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.04408	112.9928	P12:115:WERE:HOYT-KELL_115::
09NR_17	0	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.04408	112.3582	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	3	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.04337	111.6339	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.04412	111.4481	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1
09NR_17	3	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.04337	111.1801	HOYT - HOYTJN 3 115.00 115KV CKT 1
09NR_17	3	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.04337	111.1801	HOYT HTI SWITCHING JUNCTION - HOYTJN 3 115.00 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.04412	110.994	HOYT - HOYTJN 3 115.00 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.04412	110.994	HOYT HTI SWITCHING JUNCTION - HOYTJN 3 115.00 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.04408	110.3636	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.04408	109.8197	HOYT - HOYTJN 3 115.00 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.04408	109.8197	HOYT HTI SWITCHING JUNCTION - HOYTJN 3 115.00 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.03081	102.9825	COOPER - ST JOE 345KV CKT 1
09NR_17	3	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.03014	102.1243	COOPER - ST JOE 345KV CKT 1
09NR_17	2	20L	FROM->TO	G16_109	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.03066	101.9036	COOPER - ST JOE 345KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.20355	170.205	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	85.6	0.08923	152.6348	System Intact
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.12574	140.3417	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.12574	140.3417	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.12574	140.3417	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.12574	136.6461	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	2	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	85.9	0.07596	136.3478	System Intact
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.2012	133.7356	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.08163	132.2299	KELLY - S1399 5 161KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.12574	131.4287	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.08163	128.969	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.08163	128.5342	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.08163	128.5342	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.08617	126.6447	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.08486	121.2515	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	86	0.08612	118.2336	System Intact
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.07688	117.858	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.0665	117.2725	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.0665	117.2725	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.13849	117.2313	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.08096	116.6267	P12:161:OPPD:S1280-COOPER
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.06615	114.8139	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	20SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.09609	114.7737	BEATRICE - STEINAUER 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.20355	167.3309	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	85.5	0.08923	149.5385	System Intact
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.12574	137.8417	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.12574	137.8417	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.12574	137.8417	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.12574	134.0374	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	85.8	0.07596	133.2433	System Intact
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.2012	131.2356	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.08163	129.6212	KELLY - S1399 5 161KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.12574	128.9287	P12:115:MKEC:CONCORDIA-CLIFTON::	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.08163	126.3603	HUMBOLDT - S1398 5 161.00 161KV CKT 1	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.08163	126.0342	P12:161:OPPD:HUMBOLT-S1398-S1399	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.08163	126.0342	S1398 5 161.00 - S1399 5 161KV CKT 1	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.08617	124.036	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.08486	118.7515	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	86	0.08612	115.5592	System Intact	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.07688	115.358	P12:161:OPPD:HUMBOLT-S1280	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.0665	114.7725	P12:161:WERE:TECH-KELL-OPPD_161::	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.0665	114.6638	P12:161:WERE-OPPD:S1399-KELLY	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.13849	114.6226	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.08096	114.018	P12:161:OPPD:S1280-COOPER	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.09609	112.2737	BEATRICE - STEINAUER 115KV CKT 1	
00NR_17	0	20SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.06615	112.2052	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47975	150.9056	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1)	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47975	149.7911	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.72985	142.1137	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.56661	140.4589	KNOB HILL - STEELE CITY 115KV CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.56741	140.1215	KNOB HILL - STEELE CITY 115KV CKT 1	
00NR_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.55985	136.9905	KNOB HILL - STEELE CITY 115KV CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.72121	135.9837	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47975	132.0606	KELLY - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47128	130.6428	P12:115:MKEC:CONCORDIA-CLIFTON::	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.55334	125.5996	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
00NR_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4815	123.8656	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1)	
00NR_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4815	122.9547	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.54753	120.2584	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.46165	119.6786	P12:115:MKEC:CONCORDIA-CLIFTON::	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47182	119.3103	GREENLEAF - KNOB HILL 115KV CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47182	119.3103	P12:115:WERE:KNOB-MKEC_115::	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47182	119.3103	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44567	118.6468	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.7375	118.2738	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47182	117.7905	CLIFTON - GREENLEAF 115KV CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.45424	115.578	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1)	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.45424	115.072	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.55334	115.0626	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47975	114.3262	P12:115:WERE:MARS-SSEN_115::	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47975	114.1092	P12:115:WERE:MARS-SSEN_115::	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47975	113.6445	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44142	113.3081	G15088_T 345.00 - MOORE 345KV CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47975	112.7322	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1)	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4804	112.3212	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1)	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44722	112.262	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4621	110.3347	GREENLEAF - KNOB HILL 115KV CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4621	110.3347	P12:115:WERE:KNOB-MKEC_115::	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4621	110.3347	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.54753	109.8333	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4621	109.0189	CLIFTON - GREENLEAF 115KV CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44957	108.8231	CRETE - FRIEND 115KV CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.54753	108.7688	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44533	108.6909	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.44533	107.6668	COUNCIL BLUFFS 345/26.0KV TRANSFORMER CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44293	107.2275	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	2	20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.45424	107.1772	KELLY - SOUTH SENECA 115KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
09ALL_17		2 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.56741	105.3037	HARBINE - STEELE CITY 115KV CKT 1	
00NR_17		0 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.55985	104.7031	HARBINE - STEELE CITY 115KV CKT 1	
00NR_17		0 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.55769	104.6867	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
00NR_17		0 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.4815	104.6349	KELLY - SOUTH SENECA 115KV CKT 1	
09ALL_17		2 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44527	104.0063	CRETE - FRIEND 115KV CKT 1	
09ALL_17		2 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44111	103.9214	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17		0 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.44723	103.1154	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17		0 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47139	100.3896	GREENLEAF - KNOB HILL 115KV CKT 1	
00NR_17		0 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47139	100.3896	P12:115:WERE:KNOB-MKEC_115:::	
00NR_17		0 20SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.8	0.47139	100.3896	P12:115:WERE:MKEC:CLIFTON-KNOBHILL:::	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98	0.99957	121.9376	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98.1	0.99957	121.8133	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98.3	0.99486	121.3643	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98	0.99957	101.8859	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98.1	0.99957	101.7821	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.99957	169.6967	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.99957	169.5204	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.99486	163.3109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.7629	147.5171	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.76218	146.6929	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.75304	144.3934	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.55985	136.2872	P14:035:NPPD:FAIRBRYG:CAP	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60742	135.59	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60753	133.3288	MCCOOL - MOORE 345KV CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.76291	133.172	CARLTON JUNCTION - GENEVA 115KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60844	132.8676	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60844	132.8676	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.7629	132.553	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.76218	132.3626	CARLTON JUNCTION - GENEVA 115KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60844	132.2817	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62067	131.8155	G15088_T 345.00 - MOORE 345KV CKT 1	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.60573	131.3698	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61977	130.4618	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.75304	130.0929	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62035	129.6423	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62035	129.6423	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61943	128.6699	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61943	128.6699	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62247	127.4347	MCCOOL - MOORE 345KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.61237	127.0412	CRETE - FRIEND 115KV CKT 1	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62157	126.0916	MCCOOL - MOORE 345KV CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62301	125.6349	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62035	125.544	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60806	125.3617	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62211	124.6485	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61943	124.2643	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60742	124.0874	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.6248	122.6106	CRETE - FRIEND 115KV CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60844	121.8831	CARLTON JUNCTION (CARLN.JCT T2) 115/69/13.8KV TRANSFORMER CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60824	121.5817	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60693	121.5461	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09ALL_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.6239	121.4802	CRETE - FRIEND 115KV CKT 1	
09ALL_17		2 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62158	121.3003	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60844	121.1577	GENEVA (GENEVA T2) 115/69/13.8KV TRANSFORMER CKT 1	
00NR_17		0 20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60844	121.1577	P14:069:NPPD:GENEVA 8:CAP	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09ALL_17	2	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.6271	121.1162	P13:115-345:NPPD:PAULINE3:T1
09ALL_17	2	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.6271	121.1162	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.59989	120.9495	MOORE (MOORE T1) 345/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.59989	120.9495	P13:115-345:NPPD:MOORE 3:T1
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62067	120.3244	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)
09ALL_17	2	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62067	120.1731	G15088_T 345.00 - PAULINE 345KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62618	119.8653	P13:115-345:NPPD:PAULINE3:T1
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62618	119.8653	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61977	118.9353	G15088_T 345.00 - PAULINE 345KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62301	118.6703	AXTELL - G16-050-TAP 345.00 345KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62035	118.3118	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1
09ALL_17	2	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62035	118.2078	CARLTON JUNCTION (CARLN.JCT T2) 115/69/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62084	117.9748	GERALD GENTLEMAN STATION - RED WILLOW 345KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.60573	117.806	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61943	117.7665	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.62211	117.4834	AXTELL - G16-050-TAP 345.00 345KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62064	117.4368	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61943	116.9358	CARLTON JUNCTION (CARLN.JCT T2) 115/69/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61993	116.9106	GERALD GENTLEMAN STATION - RED WILLOW 345KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.5	0.60844	116.5981	System Intact
09ALL_17	2	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.2	0.62035	112.9064	System Intact
09ALL_17	0	20SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.3	0.61943	111.6398	System Intact
09ALL_17	0	20SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99957	184.9332	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	2	20SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99957	184.7464	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
00NR_17	0	20SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99486	183.9242	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	0	20SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99957	165.0639	FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.99957	164.8972	FAIRBURY - HARBINE 115KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99486	159.3479	FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.6315	112.5203	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.61841	106.7189	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.20389	182.3986	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84.1	0.08946	160.5107	System Intact
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.20251	153.5712	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.12715	148.9918	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.12715	148.8825	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.12715	148.8825	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.12715	145.276	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.12715	141.6694	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.08261	139.3865	KELLY - S1399 5 161KV CKT 1
09ALL_17	2	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84.9	0.07595	136.6513	System Intact
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.08261	133.7034	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.0879	133.352	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.08261	133.2663	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.08261	133.2663	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	85.4	0.0877	132.3699	System Intact
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.08643	128.7556	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.09806	128.6	BEATRICE - STEINAUER 115KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.0894	128.5164	COOPER - MOORE 345KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.09806	128.3814	P12:115:NPPD:1176:BEATRICE7:HUMBOLT7:BTB
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.08195	127.745	P12:161:OPPD:S1280-COOPER
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.07788	127.4594	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.06732	122.8754	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.06732	122.8754	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	20WP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.5	0.06701	120.8533	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.20389	180.8743	BEATRICE - HARBINE 115KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09ALL_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	83.8	0.08946	158.5793	System Intact
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.20251	151.9886	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.12715	147.2949	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.12715	147.2949	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.12715	147.2949	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.12715	143.575	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.12715	139.9645	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.08261	137.679	KELLY - S1399 5 161KV CKT 1
09ALL_17	2	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.6	0.07595	134.7718	System Intact
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.08261	131.9897	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.0879	131.7474	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.08261	131.5521	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.08261	131.5521	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	85.3	0.0877	130.5321	System Intact
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.08643	127.1459	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.0894	126.9065	COOPER - MOORE 345KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.09806	126.8807	BEATRICE - STEINAUER 115KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.09806	126.7713	P12:115:NPPD:1176:BEATRICE7:HUMBOLT7:BTB
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.08195	126.1342	P12:161:OPPD:S1280-COOPER
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.07788	125.8483	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.06732	121.2593	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.06732	121.2593	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	20WP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.06701	119.1256	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.48026	170.9177	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.48026	170.103	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.56641	159.5949	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.5672	159.1227	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.48026	155.0317	KELLY - SOUTH SENECA 115KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.55969	154.9236	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.73047	153.4906	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.48107	153.2521	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.48107	152.5414	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.72174	145.4273	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.4719	140.841	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.4719	140.841	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.4719	140.841	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.55386	140.6967	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.44613	140.5975	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.4719	139.008	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.73451	137.9447	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.4719	137.0732	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.48107	136.6023	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.55386	136.1142	CARLTON JUNCTION - GENEVA 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.44762	134.7556	MCCOOL - MOORE 345KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.48026	134.0502	P12:115:WERE:MARS-SEN_115::
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.48026	133.8121	P12:115:WERE:MARS-SEN_115::
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.54797	133.542	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.4418	133.3366	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.48026	132.4481	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.45458	131.9381	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.4809	131.7038	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.45458	131.5312	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44709	131.3036	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.44999	129.2803	CRETE - FRIEND 115KV CKT 1
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.46214	129.1233	P12:115:WERE:KNOB-MKEC_115::

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.46214	129.1233	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.54797	129.0659	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.46214	129.0215	GREENLEAF - KNOB HILL 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.44613	128.9885	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.44575	128.2199	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.44325	127.7999	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.46214	127.5973	CLIFTON - GREENLEAF 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.55616	126.987	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.4477	126.5946	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.45059	126.1354	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.46214	125.9697	P12:115:MKEC:CONCORDIA-CLIFTON::	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.45458	124.817	KELLY - SOUTH SEMECA 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.47025	122.7928	GREENLEAF - KNOB HILL 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.47025	122.7928	P12:115:WERE:KNOB-MKEC_115::	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.47025	122.7928	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.44561	122.6354	CRETE - FRIEND 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.55616	122.52	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.4418	122.2481	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.5672	121.788	HARBINE - STEELE CITY 115KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.44124	121.6295	P14:035:NPPD:FAIRBRYG:CAP	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.45108	121.1558	CRETE - FRIEND 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.47025	120.7623	CLIFTON - GREENLEAF 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.55969	120.3043	HARBINE - STEELE CITY 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44709	119.8316	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.2	0.44575	117.9348	System Intact	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44724	117.6006	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.48107	116.2914	P12:115:WERE:MARS-SSEN_115::	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.4296	116.0061	MOORE (MOORE T1) 345/115/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.48107	114.5958	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.3	0.44146	111.4566	System Intact	
00NR_17	0	20WP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.5	0.44724	108.9839	System Intact	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.2	0.99937	123.6995	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.3	0.99937	123.6748	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.2	0.99248	123.5978	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.2	0.99937	111.3634	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.3	0.99937	111.2478	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	96.2	0.99248	103.8407	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.99937	177.8341	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.99937	177.4625	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.99248	169.6281	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.76258	160.8638	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.76185	159.6311	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.76258	154.6858	CARLTON JUNCTION - GENEVA 115KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.75262	154.3599	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.76185	153.466	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62025	153.2644	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.60852	152.1116	G15088_T 345.00 - MOORE 345KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61934	151.2895	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.60919	150.3097	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62199	150.0653	MCCOOL - MOORE 345KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62108	148.2077	MCCOOL - MOORE 345KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.75262	148.1819	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6199	147.386	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6199	147.386	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.60866	146.1619	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.60866	146.1619	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61897	145.8108	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61897	145.8108	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6199	145.187	P14:035:NPPD:FAIRBRYG:CAP	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61897	143.303	P14:035:NPPD:FAIRBRYG:CAP	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61272	142.9291	CRETE - FRIEND 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62435	142.8158	CRETE - FRIEND 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62662	142.2406	P13:115-345:NPPD:PAULINE3:T1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62662	142.2406	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.60866	142.0419	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62247	141.8344	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62025	141.6414	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62343	140.9733	CRETE - FRIEND 115KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.60852	140.5933	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62568	140.4794	P13:115-345:NPPD:PAULINE3:T1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62568	140.4794	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62156	140.1359	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61934	139.7952	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62108	138.3239	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6199	138.2061	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6145	137.6187	P13:115-345:NPPD:PAULINE3:T1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6145	137.6187	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.64593	137.601	GENEVA - MCCOOL 115KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62016	136.651	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61897	136.435	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.645	135.9105	GENEVA - MCCOOL 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6199	135.8676	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62431	135.7757	CRETE - SHELDON 115KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6086	135.5311	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6123	135.4704	CRETE - SHELDON 115KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61897	134.839	MARSHAL3 115.00 115/34.5KV TRANSFORMER CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62059	134.7952	P12:345:SUNC:MINGO-SETAB::531451-531465(1)	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.62247	134.7139	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.61272	134.3428	P12:115:NPPD:1259A:CRETE_7:GENEVA 7:BTB	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.6234	134.0523	CRETE - SHELDON 115KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.60854	133.84	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.59937	133.5748	MOORE (MOORE T1) 345/115/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.59937	133.5748	P13:115-345:NPPD:MOORE 3:T1	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61966	133.0313	P12:345:SUNC:MINGO-SETAB::531451-531465(1)	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.62156	133.0303	AXTELL - G16-050-TAP 345.00 345KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.6199	130.4226	System Intact	
00NR_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.5	0.60866	129.7221	System Intact	
09ALL_17	0	20WP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	95.7	0.61897	128.6739	System Intact	
09ALL_17	0	20WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99937	183.8209	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	2	20WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99937	183.8209	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	0	20WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99248	183.1153	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	0	20WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99937	171.7205	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99937	171.7205	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	0	20WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.99248	163.7965	FAIRBURY - HARBINE 115KV CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.632	113.3147	BEATRICE - HARBINE 115KV CKT 1	
09ALL_17	2	20WP	FROM->TO	G16_109	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.61884	105.7658	BEATRICE - HARBINE 115KV CKT 1	
09ALL_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	84.2	0.08904	163.3546	System Intact	
09ALL_17	2	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	84.6	0.07578	148.1298	System Intact	
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.12564	134.9131	GREENLEAF - KNOB HILL 115KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.12564	134.9131	P12:115:WERE:KNOB-MKEC_115::	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.12564	134.9131	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.12564	131.2134	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.12564	125.9903	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.20108	124.5937	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.08156	120.5995	KELLY - S1399 5 161KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.08156	117.2263	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.08156	116.8999	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.08156	116.8999	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.08609	115.6548	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.08479	110.915	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.06645	110.2025	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.06645	110.2025	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.08091	109.2263	P12:161:OPPD:S1280-COOPER
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.13846	108.753	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.07682	108.718	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	85.9	0.08604	108.685	System Intact
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.06609	108.1733	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.0887	105.8606	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	83.8	0.08904	160.4351	System Intact
09ALL_17	2	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.2	0.07578	145.0331	System Intact
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.12564	132.3015	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.12564	132.1927	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.12564	132.1927	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.12564	128.493	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.12564	123.27	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.20108	121.9821	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.08156	117.8792	KELLY - S1399 5 161KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.08156	114.6148	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.08156	114.1795	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.08156	114.1795	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.08609	112.9345	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.08479	108.1946	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.06645	107.4821	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.06645	107.4821	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.08091	106.6148	P12:161:OPPD:S1280-COOPER
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.13846	106.0327	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.07682	105.9976	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	85.9	0.08604	105.8911	System Intact
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.06609	105.4529	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.0887	103.2491	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.55962	134.5245	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	2	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.56825	121.712	KNOB HILL - STEELE CITY 115KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.56745	121.5022	KNOB HILL - STEELE CITY 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.73764	119.5885	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.48132	119.5217	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.48081	119.0089	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.48132	118.6126	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.48081	117.6918	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.73046	117.2461	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	2	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.72184	111.8676	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.55763	104.2555	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.55962	102.3023	HARBINE - STEELE CITY 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.47123	101.2505	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.47123	101.2505	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.47123	101.2505	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY	
						(MVA)	TDF	LOADING %	CONTINGENCY
09ALL_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.47237	100.5875	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	99	0.44704	100.5247	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_109	BEATRICE - HARBINE 115KV CKT 1	98.7	0.55429	100.2236	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_109	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	146.9	0.66562	106.9702	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	2	25SP	TO->FROM	G16_109	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	146.9	0.66562	106.9583	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	0	25SP	FROM->TO	G16_109	CLIFTON - CONCORDIA 115KV CKT 1	105.2	0.08297	106.5408	System Intact
09ALL_17	2	25SP	FROM->TO	G16_109	CLIFTON - CONCORDIA 115KV CKT 1	105.2	0.07933	103.355	System Intact
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98.3	0.99959	121.769	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98.3	0.99959	121.769	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
00NR_17	2	25SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98.6	0.99497	121.5021	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98.4	0.99497	121.2409	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98.3	0.99959	101.6886	FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - G15087_T 115.00 115KV CKT 1	98.3	0.99959	101.6886	FAIRBURY - HARBINE 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.99959	169.8342	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.99959	169.6586	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.99497	163.3168	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.76337	146.6241	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.76265	146.1008	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.75289	142.0815	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.99497	133.4417	P14:035:NPPD:FAIRBRYG:CAP
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.76337	131.2156	CARLTON JUNCTION - GENEVA 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.6071	130.8693	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.76265	130.6764	CARLTON JUNCTION - GENEVA 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60817	129.7188	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60817	129.7188	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60817	129.113	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60712	128.4821	MCCOOL - MOORE 345KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.75289	126.7764	CARLTON JUNCTION - GENEVA 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60777	123.9804	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.61204	123.4727	CRETE - FRIEND 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60667	120.0784	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.56825	119.5759	P14:035:NPPD:FAIRBRYG:CAP
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.6071	119.4939	G15088_T 345.00 - PAULINE 345KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60817	119.0673	CARLTON JUNCTION (CARLN.JCT T2) 115/69/13.8KV TRANSFORMER CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.60647	118.767	P14:035:NPPD:FAIRBRYG:CAP
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.59961	118.4428	MOORE (MOORE T1) 345/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.59961	118.4428	P13:115-345:NPPD:MOORE 3:T1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60797	118.3529	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60817	118.3434	GENEVA (GENEVA T2) 115/69/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60782	118.3434	P14:069:NPPD:GENEVA 8:CAP
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60748	117.9911	GERALD GENTLEMAN STATION - RED WILLOW 345KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.6214	116.8955	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.62106	116.3701	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.62106	116.3701	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.6205	115.9009	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.62014	115.6614	S.FLATS.PLT7115.00 - STEELE CITY 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.62014	115.6614	S.FLATS.PLT7115.00 (STL.FLTS GSU) 115/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.62373	114.2508	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.62283	113.6133	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.60817	113.483	System Intact
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.62323	112.6468	MCCOOL - MOORE 345KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.62106	112.2869	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.62233	111.867	MCCOOL - MOORE 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.6	0.62014	111.4644	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	2	25SP	FROM->TO	G16_109	FAIRBURY - HARBINE 115KV CKT 1	96.7	0.6223	109.4155	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09ALL_17	2	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.36821	135.8647	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.56421	135.6268	P12:230:MKEC:ELMCREEK-NORTHMANHATTAN::
09ALL_17	2	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.36821	135.4236	P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17	2	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.36821	135.3134	S1398 5 161.00 - S1399 5 161KV CKT 1
09ALL_17	2	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.411	135.2722	COOPER - ST JOE 345KV CKT 1
00NR_17	0	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.55142	134.6412	P12:161:OPPD:S1280-COOPER
00NR_17	0	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.53952	134.5642	P12:161:OPPD:HUMBOLT-S1280
09ALL_17	2	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.2851	134.0034	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	2	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.2851	134.0034	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.40712	130.2536	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.40712	130.1439	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.1	0.40784	127.661	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	16WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.28085	125.9424	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.36699	179.9232	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.36699	179.1093	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.36627	170.3005	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.36627	169.6907	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.36699	164.562	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.20799	161.9458	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.36627	154.2436	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.21299	149.8415	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.21299	149.8415	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.21299	149.8415	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.21299	148.1121	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.14692	147.8343	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.21299	146.1793	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.14572	143.856	MCCOOL - MOORE 345KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.36699	143.1169	P12:115:WERE:MARS-SEEN_115::
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.17269	140.9707	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21047	139.69	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21047	139.69	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21047	139.69	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21047	137.4542	CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.14818	136.6353	CRETE - FRIEND 115KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.14692	136.3506	G15088_T 345.00 - PAULINE 345KV CKT 1
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21047	135.5233	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.21299	135.414	P14:035:NPPD:FAIRBRYG:CAP
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.36627	133.4336	P12:115:WERE:MARS-SEEN_115::
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.14818	133.1335	P14:035:NPPD:FAIRBRYG:CAP
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.14818	131.4524	P12:115:NPPD:1259A:CRETE__7:GENEVA 7:BTB
09ALL_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.14876	125.4445	System Intact
00NR_17	0	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.14922	123.1742	System Intact
09ALL_17	2	16WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.09944	118.9593	System Intact
00NR_17	0	16WP	FROM->TO	G16_170S	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.8	0.17072	104.1494	BEATRICE - HARBINE 115KV CKT 1
00NR_17	2	16WP	FROM->TO	G16_170S	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	98.9	0.1679	101.7731	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	3	16WP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.9	0.21048	101.4178	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09ALL_17	3	16WP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.9	0.21048	101.2374	P12:115:WERE:HOYT-KELL_115::
09ALL_17	3	16WP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.9	0.21048	100.8768	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09ALL_17	3	16WP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.9	0.21048	100.7866	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1
09ALL_17	0	16WP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.9	0.21285	100.5242	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09ALL_17	0	16WP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.9	0.21285	100.2537	P12:115:WERE:HOYT-KELL_115::
09ALL_17	0	16WP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	184.2241	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	182.0479	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	16WP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	141.8955	KELLY - SOUTH SENECA 115KV CKT 1
00NR_17	2	16WP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.6	1	124.1276	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1

Table with columns: GROUP, SCENARIO, SEASON, DIRECTION, SOURCE, MONITORED ELEMENT, RATE (MVA), TDF, CONTINGENCY LOADING %, and CONTINGENCY. It lists various power system components, scenarios, and their associated constraints and loading percentages.

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY LOADING %	CONTINGENCY
						(MVA)	TDF		
09ALL_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.2	0.41443	153.3737	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.36867	153.264	P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.36867	153.1533	S1398 5 161.00 - S1399 5 161KV CKT 1
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	83.7	0.56262	151.6457	System Intact
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.56255	150.6167	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.2	0.41456	149.8069	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.28544	149.6559	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.28544	149.6559	P12:161:WERE-OPPD:S1399-KELLY
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.49967	147.8428	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.49967	147.6201	P12:161:OPPD:HUMBOLT-S1398-S1399
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.49967	147.6201	S1398 5 161.00 - S1399 5 161KV CKT 1
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.5568	146.6536	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.56255	146.6135	COOPER - MOORE 345KV CKT 1
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.56078	146.5477	BEATRICE - STEINAUER 115KV CKT 1
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.56262	146.2444	P13:34.5-161:OPPD:FLTWTR FMFR
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.56262	146.2444	S1399 5 (FLTWTR FMFR) 161/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.1	0.41072	144.3145	System Intact
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.40989	141.7998	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.41121	141.2118	COOPER - ST JOE 345KV CKT 1
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.41107	140.5086	G15-005T 345.00 - SIBLEY 345KV CKT 1
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.4072	140.2978	P12:161:WERE:TECH-KELL-OPPD_161::
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.4072	140.2978	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.40427	140.2905	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09ALL_17	2	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.28114	139.6444	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09NR_17	0	17G	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.8	0.40792	137.4449	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36674	170.2317	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36674	169.3199	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36646	169.2314	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36646	168.4208	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36674	154.3249	KELLY - SOUTH SENECA 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36646	153.4259	KELLY - SOUTH SENECA 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21371	151.6691	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.20745	146.792	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21285	145.3015	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21285	145.3015	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21285	145.2002	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21285	143.2752	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21063	143.0616	GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21063	143.0616	P12:115:WERE:KNOB-MKEC_115::
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21063	143.0616	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21285	141.1475	P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21063	141.1366	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.14714	140.2538	G15088_T 345.00 - MOORE 345KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.17273	140.2502	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21063	139.1103	P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.17273	136.5014	CARLTON JUNCTION - GENEVA 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.14593	135.6797	MCCOOL - MOORE 345KV CKT 1
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36674	133.5805	P12:115:WERE:MARS-SEEN_115::
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36646	132.4766	P12:115:WERE:MARS-SEEN_115::
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.14839	130.9125	CRETE - FRIEND 115KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.14714	128.7037	G15088_T 345.00 - PAULINE 345KV CKT 1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.14932	127.7535	P13:115-345:NPPD:PAULINE3:T1
09NR_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.14937	118.7887	System Intact
09ALL_17	0	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.14848	116.7726	System Intact
09ALL_17	2	17G	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.0992	112.0608	System Intact

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
00NR_17		3 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03686	108.4418	SIUXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1
00NR_17		4 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03687	108.4418	SIUXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1
00NR_17		2 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03714	108.3454	SIUX CITY - SIUXCY-LNX3345.00 345KV CKT Z
00NR_17		3 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03686	108.3434	SIUX CITY - SIUXCY-LNX3345.00 345KV CKT Z
00NR_17		0 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03699	108.3294	SIUX CITY - SIUXCY-LNX3345.00 345KV CKT Z
00NR_17		4 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03687	108.3294	SIUX CITY - SIUXCY-LNX3345.00 345KV CKT Z
00NR_17		2 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03792	107.6744	FT RANDAL - MEADOWGROVE4230.00 230KV CKT 1
00NR_17		4 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03763	107.6579	FT RANDAL - MEADOWGROVE4230.00 230KV CKT 1
00NR_17		3 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03762	107.6575	FT RANDAL - MEADOWGROVE4230.00 230KV CKT 1
00NR_17		0 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03775	107.6438	FT RANDAL - MEADOWGROVE4230.00 230KV CKT 1
00NR_17		2 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03753	107.4016	LARAMIE RIVER 345/24.0KV TRANSFORMER CKT 1
00NR_17		0 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03737	107.3855	LARAMIE RIVER 345/24.0KV TRANSFORMER CKT 1
00NR_17		3 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03724	107.3855	LARAMIE RIVER 345/24.0KV TRANSFORMER CKT 1
00NR_17		4 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03725	107.3855	LARAMIE RIVER 345/24.0KV TRANSFORMER CKT 1
00NR_17		2 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03669	107.3549	P12:230:UMZW:# 737 #: FT IN SD. FT-LET LINE FAULT
00NR_17		3 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.0364	107.3533	P12:230:UMZW:# 737 #: FT IN SD. FT-LET LINE FAULT
00NR_17		4 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03641	107.3533	P12:230:UMZW:# 737 #: FT IN SD. FT-LET LINE FAULT
00NR_17		0 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03653	107.3392	P12:230:UMZW:# 737 #: FT IN SD. FT-LET LINE FAULT
00NR_17		2 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03753	103.311	System Intact
00NR_17		3 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03724	103.295	System Intact
00NR_17		4 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03725	103.295	System Intact
00NR_17		0 17SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	711.4	0.03737	103.2809	System Intact
00NR_17		2 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03753	114.8548	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17		3 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03724	114.8528	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17		4 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03725	114.8528	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17		0 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03737	114.839	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17		2 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03792	110.6383	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17		4 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03763	110.622	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17		3 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03762	110.6216	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17		0 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03775	110.6081	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17		2 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03735	110.4378	RIEL - ROSEAU 500KV CKT 1
00NR_17		4 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03706	110.4358	RIEL - ROSEAU 500KV CKT 1
00NR_17		3 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03706	110.4354	RIEL - ROSEAU 500KV CKT 1
00NR_17		0 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03719	110.4215	RIEL - ROSEAU 500KV CKT 1
00NR_17		2 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03735	110.2711	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17		2 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03735	110.2711	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17		3 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03706	110.2687	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17		3 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03706	110.2687	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17		4 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03706	110.2552	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17		4 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03706	110.2552	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17		0 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03719	110.2548	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17		0 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03719	110.2548	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17		2 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03735	110.0905	FORBES - ROSEAU 500KV CKT 1
00NR_17		4 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03706	110.0886	FORBES - ROSEAU 500KV CKT 1
00NR_17		3 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03706	110.0881	FORBES - ROSEAU 500KV CKT 1
00NR_17		0 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03719	110.0743	FORBES - ROSEAU 500KV CKT 1
00NR_17		2 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.0367	109.8524	HURON - SPLIT ROCK 345KV CKT 1
00NR_17		3 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03642	109.8508	HURON - SPLIT ROCK 345KV CKT 1
00NR_17		0 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03655	109.8369	HURON - SPLIT ROCK 345KV CKT 1
00NR_17		4 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03643	109.8369	HURON - SPLIT ROCK 345KV CKT 1
00NR_17		2 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.04324	109.6807	NUNDRWD - WAYSIDE 230KV CKT 1
00NR_17		4 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.04294	109.664	NUNDRWD - WAYSIDE 230KV CKT 1
00NR_17		3 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.04294	109.6636	NUNDRWD - WAYSIDE 230KV CKT 1
00NR_17		0 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.04308	109.6497	NUNDRWD - WAYSIDE 230KV CKT 1
00NR_17		2 17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03614	109.3234	P12:345:OPPD-MEC:53451-RAUN

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03588	109.3084	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03598	109.308	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03586	109.308	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03753	109.1187	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03753	109.1187	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03724	109.1167	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03724	109.1167	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03737	109.1028	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03737	109.1028	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03725	109.1028	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03725	109.1028	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03671	109.1008	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03644	109.0992	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03643	109.0988	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03656	109.0849	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03661	108.9762	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03646	108.9607	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03633	108.9607	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03634	108.9607	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03678	108.629	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.0365	108.627	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.0365	108.6135	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03663	108.6131	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03714	108.468	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03686	108.466	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03687	108.466	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03699	108.4521	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03714	108.4263	SIΟΥXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03699	108.4104	SIΟΥXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03686	108.4104	SIΟΥXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03687	108.4104	SIΟΥXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03714	108.3152	SIΟΥX CITY - SIΟΥXCY-LNX3345.00 345KV CKT Z	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03699	108.2993	SIΟΥX CITY - SIΟΥXCY-LNX3345.00 345KV CKT Z	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03686	108.2993	SIΟΥX CITY - SIΟΥXCY-LNX3345.00 345KV CKT Z	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03687	108.2993	SIΟΥX CITY - SIΟΥXCY-LNX3345.00 345KV CKT Z	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03792	107.6383	FT RANDAL - MEADOWGROVE4230.00 230KV CKT 1	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03763	107.6359	FT RANDAL - MEADOWGROVE4230.00 230KV CKT 1	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03762	107.6355	FT RANDAL - MEADOWGROVE4230.00 230KV CKT 1	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03775	107.622	FT RANDAL - MEADOWGROVE4230.00 230KV CKT 1	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03753	107.3826	LARAMIE RIVER 345/24.0KV TRANSFORMER CKT 1	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03737	107.3667	LARAMIE RIVER 345/24.0KV TRANSFORMER CKT 1	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03724	107.3667	LARAMIE RIVER 345/24.0KV TRANSFORMER CKT 1	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03725	107.3667	LARAMIE RIVER 345/24.0KV TRANSFORMER CKT 1	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03669	107.3365	P12:230:UMZW:# 737 #: FT IN SD. FT-LET LINE FAULT	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.0364	107.3349	P12:230:UMZW:# 737 #: FT IN SD. FT-LET LINE FAULT	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03641	107.3349	P12:230:UMZW:# 737 #: FT IN SD. FT-LET LINE FAULT	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03653	107.321	P12:230:UMZW:# 737 #: FT IN SD. FT-LET LINE FAULT	
00NR_17	2	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03753	103.327	System Intact	
00NR_17	3	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03724	103.3251	System Intact	
00NR_17	4	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03725	103.3251	System Intact	
00NR_17	0	17SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	720	0.03737	103.3112	System Intact	
00NR_17	3	17SP	FROM->TO	G16_170S	HOYT - HOYTJ3 3 115.00 115KV CKT 1	178.5	0.0302	104.8178	HOYT - STRANGER CREEK 345KV CKT 1	
00NR_17	2	17SP	FROM->TO	G16_170S	HOYT - HOYTJ3 3 115.00 115KV CKT 1	178.5	0.03045	104.7288	HOYT - STRANGER CREEK 345KV CKT 1	
00NR_17	0	17SP	FROM->TO	G16_170S	HOYT - HOYTJ3 3 115.00 115KV CKT 1	178.5	0.02926	104.4852	HOYT - STRANGER CREEK 345KV CKT 1	
00NR_17	4	17SP	FROM->TO	G16_170S	HOYT - HOYTJ3 3 115.00 115KV CKT 1	178.6	0.02963	104.4382	HOYT - STRANGER CREEK 345KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09ALL_17	0	17SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.8	1	184.4248	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.8	1	181.5926	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.8	1	134.207	KELLY - SOUTH SENECA 115KV CKT 1
00NR_17	2	17SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	123.2872	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	123.0695	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	2	17SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	121.0021	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	120.5668	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	2	17SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	0.53611	101.2438	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.7	1	107.9404	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	2	17SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.9	1	107.1827	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.8	1	107.0816	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	17SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.7	1	105.0739	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
00NR_17	2	17SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.9	1	104.8976	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
00NR_17	0	17SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.8	1	104.5761	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.67542	204.1949	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.67542	204.1949	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.67542	204.1949	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.67542	201.8745	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.67542	200.1065	P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.66901	193.0189	GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.66901	192.9087	P12:115:WERE:KNOB-MKEC_115::
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.66901	192.9087	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.66901	190.8139	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.66901	189.0498	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.60368	184.3095	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.50813	178.4766	KELLY - S1399 5 161KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.60295	178.062	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.36746	176.8616	KELLY - S1399 5 161KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.60541	172.6742	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.60541	172.6742	P12:230:MKEC:CONCORDIA-ELMCREEK::
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.60541	172.6742	P13:230-115:MKEC:CONCORDIA_XFR::
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.50086	169.4922	KELLY - S1399 5 161KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.4725	168.4521	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.4725	168.3425	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.4725	168.3425	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.4725	166.8074	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.60124	166.1803	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.60124	166.1803	P13:230-115:MKEC:CONCORDIA_XFR::
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.60124	166.0701	P12:230:MKEC:CONCORDIA-ELMCREEK::
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84.4	0.56544	165.579	System Intact
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.4725	165.4916	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.57333	161.0835	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.56555	160.6033	COOPER - MOORE 345KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.56544	160.3853	P13:34.5-161:OPPD:FLTWTR TFMR
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.56544	160.3853	S1399 5 (FLTWTR TFMR) 161/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.50813	160.3551	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.50813	160.2446	P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.50813	160.2446	S1398 5 161.00 - S1399 5 161KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	84.6	0.56409	159.0418	System Intact
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.48451	158.611	HUMBOLDT (HUMBOLDT T2) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.48451	158.611	P13:115-161:NPPD:HUMBOLDT T2
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.48451	158.611	P13:115-161:NPPD:HUMBOLTS:T2
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.50086	154.9388	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.50086	154.8285	P12:161:OPPD:HUMBOLT-S1398-S1399
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.50086	154.8285	S1398 5 161.00 - S1399 5 161KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.56451	154.5992	COOPER - MOORE 345KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.56251	154.0155	BEATRICE - STEINAUER 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.56409	153.1966	P13:34.5-161:OPPD:FLTWTR TFM
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.56409	153.1966	S1399 5 (FLTWTR TFM) 161/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.42618	152.5634	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.41398	150.6081	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.41398	150.6081	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.36746	149.3397	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.36746	149.2301	P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.36746	149.1204	S1398 5 161.00 - S1399 5 161KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.43359	147.7182	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.43359	147.7182	P13:230-115:MKEC.CONCORDIA_XFR::
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.43359	147.6086	P12:230:MKEC.CONCORDIA-ELMCREEK::
09ALL_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.5	0.41415	147.3522	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	85.2	0.41021	144.4703	System Intact
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.40816	144.3299	P12:161:WERE:TECH-KELL-OPPD_161::
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.40816	144.2196	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.28451	143.3466	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.28451	143.2369	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.41058	141.3052	COOPER - ST JOE 345KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.40888	141.2944	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.2	0.2804	133.749	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.67542	203.5476	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.67542	203.5476	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.67542	203.5476	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.67542	201.2168	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.67542	199.441	P12:115:MKEC.CONCORDIA-CLIFTON::
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.66901	192.009	GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.66901	191.8985	P12:115:WERE:KNOB-MKEC_115::
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.66901	191.8985	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.66901	189.7991	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.66901	188.0311	P12:115:MKEC.CONCORDIA-CLIFTON::
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.60368	183.5739	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.50813	177.7151	KELLY - S1399 5 161KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.60295	177.019	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.36746	175.7119	KELLY - S1399 5 161KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.60541	171.887	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.60541	171.887	P12:230:MKEC.CONCORDIA-ELMCREEK::
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.60541	171.887	P13:230-115:MKEC.CONCORDIA_XFR::
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.50086	168.5408	KELLY - S1399 5 161KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.4725	167.2839	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.4725	167.2839	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	2	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.4725	167.2839	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	2	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.4725	165.6355	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.60124	165.1111	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.60124	165.1111	P12:230:MKEC.CONCORDIA-ELMCREEK::
09NR_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.60124	165.1111	P13:230-115:MKEC.CONCORDIA_XFR::
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84	0.56544	164.7008	System Intact
09ALL_17	2	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.4725	164.4268	P12:115:MKEC.CONCORDIA-CLIFTON::
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.57333	160.2448	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.56555	159.7625	COOPER - MOORE 345KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.56544	159.5435	P13:34.5-161:OPPD:FLTWTR TFM
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.56544	159.5435	S1399 5 (FLTWTR TFM) 161/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.50813	159.5131	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.50813	159.4021	P12:161:OPPD:HUMBOLT-S1398-S1399

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
09ALL_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.50813	159.4021	\$1398 5 161.00 - \$1399 5 161KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.4	0.56409	157.8784	System Intact	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.48451	157.4211	HUMBOLDT (HUMBOLDT T2) 161/115/13.8KV TRANSFORMER CKT 1	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.48451	157.4211	P13:115-161:NPPD:HUMBOLDT T2	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.48451	157.4211	P13:115-161:NPPD:HUMBOLTS:T2	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.50086	153.8447	HUMBOLDT - \$1398 5 161.00 161KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.50086	153.7342	P12:161:OPPD:HUMBOLT-S1398-S1399	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.50086	153.7342	\$1398 5 161.00 - \$1399 5 161KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.56451	153.5044	COOPER - MOORE 345KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.56251	153.0299	BEATRICE - STEINAUER 115KV CKT 1	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.56409	152.2092	P13:34.5-161:OPPD:FLTWTR TFMR	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.56409	152.2092	\$1399 5 (FLTWTR TFMR) 161/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.42618	151.3602	BEATRICE - HARBINE 115KV CKT 1	
09ALL_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.41398	149.7229	P12:161:WERE:TECH-KELL-OPPD_161::	
09ALL_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.41398	149.7229	P12:161:WERE-OPPD:1399-KELLY	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.36746	148.1295	HUMBOLDT - \$1398 5 161.00 161KV CKT 1	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.36746	148.0196	P12:161:OPPD:HUMBOLT-S1398-S1399	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.36746	147.9097	\$1398 5 161.00 - \$1399 5 161KV CKT 1	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.43359	146.5044	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.43359	146.5044	P12:230:MKEC:CONCORDIA-ELMCREEK::	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.43359	146.5044	P13:230-115:MKEC:CONCORDIA_XFR::	
09ALL_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.1	0.41415	146.4525	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.9	0.41021	143.3318	System Intact	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.40816	143.2124	P12:161:WERE:TECH-KELL-OPPD_161::	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.40816	143.2124	P12:161:WERE-OPPD:1399-KELLY	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.28451	142.1231	P12:161:WERE:TECH-KELL-OPPD_161::	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.28451	142.1231	P12:161:WERE-OPPD:1399-KELLY	
09NR_17		0 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.5	0.40888	140.2807	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.41058	140.0773	COOPER - ST JOE 345KV CKT 1	
09ALL_17		2 20L	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91	0.2804	132.5045	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.3671	161.9252	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.3671	161.4171	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.36896	159.3545	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.36896	158.8464	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.3671	150.7464	KELLY - SOUTH SENECA 115KV CKT 1	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.36896	148.1757	KELLY - SOUTH SENECA 115KV CKT 1	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.20842	143.0201	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21344	142.241	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21315	133.8949	GREENLEAF - KNOB HILL 115KV CKT 1	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21315	133.8949	P12:115:WERE:KNOB-MKEC_115::	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21315	133.8949	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21315	132.6753	CLIFTON - GREENLEAF 115KV CKT 1	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21315	131.6591	P12:115:MKEC:CONCORDIA-CLIFTON::	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21256	130.5711	GREENLEAF - KNOB HILL 115KV CKT 1	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21256	130.5711	P12:115:WERE:KNOB-MKEC_115::	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21256	130.5711	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.17432	129.6045	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21256	129.3516	CLIFTON - GREENLEAF 115KV CKT 1	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.21256	128.4369	P12:115:MKEC:CONCORDIA-CLIFTON::	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.15021	126.5936	G15088_T 345.00 - MOORE 345KV CKT 1	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.17432	126.0476	CARLTON JUNCTION - GENEVA 115KV CKT 1	
09ALL_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.3671	125.031	P12:115:WERE:MARS-SSEN_115::	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.36896	122.3593	P12:115:WERE:MARS-SSEN_115::	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.14936	120.8873	MCCOOL - MOORE 345KV CKT 1	
09NR_17		0 20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.15086	117.2455	CRETE - FRIEND 115KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09NR_17	0	20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.15175	115.8942	P13:115-345:NPPD:PAULINE3:T1
09NR_17	0	20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.15175	115.8942	PAULINE (PAULINE T1) 345/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.14898	107.1369	System Intact
09NR_17	0	20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.4	0.15135	106.5677	System Intact
09ALL_17	2	20L	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.09965	101.2624	System Intact
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.22216	132.2746	KELLY - TECUMSEH HILL 161KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.22216	130.9263	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.2	0.19593	128.7503	KELLY - TECUMSEH HILL 161KV CKT 1
09ALL_17	2	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.2	0.19593	127.405	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.20614	122.4025	KELLY - TECUMSEH HILL 161KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.20614	121.2865	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.21356	112.3874	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.21356	112.3874	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.21356	112.3874	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.21356	111.6009	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.21356	110.9268	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.41398	109.4386	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.41398	109.4386	P12:161:WERE-OPPD:S1399-KELLY
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.16087	105.3124	COOPER - ST JOE 345KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89	0.30291	104.7004	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.20031	104.677	GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.20031	104.5654	P12:115:WERE:KNOB-MKEC_115::
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.20031	104.5654	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.20031	103.8958	CLIFTON - GREENLEAF 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.20031	103.2262	P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.40816	103.133	P12:161:WERE-OPPD:S1399-KELLY
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.40816	103.0214	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	2	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.2	0.28451	102.9508	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	2	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.2	0.28451	102.9508	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	82.8	0.17515	101.8795	System Intact
09NR_17	0	20L	TO->FROM	G16_170S	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	89.6	0.40888	100.0603	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	121.9	0.46602	116.1973	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	121.9	0.46602	115.7051	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	122.2	0.45593	107.1464	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	122.2	0.45593	106.6554	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	121.9	0.46602	105.4508	KELLY - SOUTH SENECA 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.16839	107.2273	BEATRICE - HARBINE 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_170S	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	99	0.16553	104.2367	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	0.22216	134.3951	KELLY - TECUMSEH HILL 161KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	0.22216	133.0648	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1
09ALL_17	2	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.4	0.19593	130.8023	KELLY - TECUMSEH HILL 161KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.4	0.19593	129.5855	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.20614	124.7212	KELLY - TECUMSEH HILL 161KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.20614	123.7267	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	0.21356	114.7725	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	0.21356	114.7725	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	0.21356	114.7725	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	0.21356	113.9965	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	0.21356	113.3313	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	0.41398	111.8629	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.2	0.41398	111.8629	P12:161:WERE-OPPD:S1399-KELLY
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.16087	107.801	COOPER - ST JOE 345KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.20031	107.172	GREENLEAF - KNOB HILL 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.20031	107.0615	P12:115:WERE:KNOB-MKEC_115::
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.20031	107.0615	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.20031	106.3985	CUFTON - GREENLEAF 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.20031	105.7355	P12:115:MKEC:CONCORDIA-CLIFTON::
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.40816	105.6433	P12:161:WERE:TECH-KELL-OPPD_161::
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.40816	105.6433	P12:161:WERE-OPPD:1399-KELLY
09ALL_17	2	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.4	0.28451	105.4558	P12:161:WERE-OPPD:1399-KELLY
09ALL_17	2	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.4	0.28451	105.3452	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	84.1	0.17515	104.3475	System Intact
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.40888	102.7117	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.16269	101.9689	G15-005T 345.00 - SIBLEY 345KV CKT 1
09ALL_17	2	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	84.3	0.15245	101.5315	System Intact
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.16269	100.9744	G14-021T 345.00 - MULLNCR7 345.00 345KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.16269	100.8639	G15-005T 345.00 - MULLNCR7 345.00 345KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	90.5	0.16227	100.3608	COOPER - FAIRPORT 345KV CKT 1
09ALL_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110	0.2091	125.6169	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09ALL_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110	0.2091	125.2532	P12:115:WERE:HOYT-KELL_115::
09ALL_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110	0.2091	125.1623	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.21147	124.8579	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.21147	124.4949	P12:115:WERE:HOYT-KELL_115::
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.21147	123.769	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09ALL_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110	0.2091	123.0714	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1
09ALL_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110	0.2091	122.526	HOYT - HOYTJN 3 115.00 115KV CKT 1
09ALL_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110	0.2091	122.526	HOYT HTI SWITCHING JUNCTION - HOYTJN 3 115.00 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.21147	121.7726	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.21147	121.2281	HOYT - HOYTJN 3 115.00 115KV CKT 1
09ALL_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.21147	121.2281	HOYT HTI SWITCHING JUNCTION - HOYTJN 3 115.00 115KV CKT 1
09NR_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.19061	114.1747	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.19361	113.9912	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.19061	113.8117	P12:115:WERE:HOYT-KELL_115::
09NR_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.19061	113.721	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.19361	113.6279	P12:115:WERE:HOYT-KELL_115::
09NR_17	2	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.19361	113.5371	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.19293	113.4462	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.19293	112.9928	P12:115:WERE:HOYT-KELL_115::
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.19293	112.3582	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09NR_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.19061	111.6339	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.19361	111.4481	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1
09NR_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.19061	111.1801	HOYT - HOYTJN 3 115.00 115KV CKT 1
09NR_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.19061	111.1801	HOYT HTI SWITCHING JUNCTION - HOYTJN 3 115.00 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.19361	110.994	HOYT - HOYTJN 3 115.00 115KV CKT 1
09NR_17	2	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.19361	110.994	HOYT HTI SWITCHING JUNCTION - HOYTJN 3 115.00 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.19293	110.3636	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.19293	109.8197	HOYT - HOYTJN 3 115.00 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.19293	109.8197	HOYT HTI SWITCHING JUNCTION - HOYTJN 3 115.00 115KV CKT 1
09NR_17	0	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.3	0.13326	102.9825	COOPER - ST JOE 345KV CKT 1
09NR_17	3	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.2	0.13051	102.1243	COOPER - ST JOE 345KV CKT 1
09NR_17	2	20L	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.1	0.13245	101.9036	COOPER - ST JOE 345KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	184.7682	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	183.2448	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09NR_17	2	20L	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	92	1	171.414	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09NR_17	2	20L	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	92	1	170.6532	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	92	1	170.5445	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	92	1	169.1314	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20L	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	153.6474	KELLY - SOUTH SENECA 115KV CKT 1
09NR_17	2	20L	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	92	1	141.0879	KELLY - SOUTH SENECA 115KV CKT 1
09NR_17	0	20L	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	92	1	139.6749	KELLY - SOUTH SENECA 115KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
09NR_17		2 20L	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.6	1	108.5163	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17		0 20L	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.9	1	108.363	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09NR_17		0 20L	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91	1	108.3526	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09NR_17		2 20L	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.6	1	107.7521	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09NR_17		0 20L	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91	1	106.9241	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17		0 20L	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.9	1	106.8229	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.67509	199.574	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	1	184.5	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.67603	178.6594	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.67603	178.6594	P12:115:WERE:KNOB-MKEC_115::
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.67603	178.6594	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.67603	175.7118	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.60336	170.205	BEATRICE - HARBINE 115KV CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.36852	166.8289	KELLY - S1399 5 161KV CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.47265	166.5025	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.50858	165.5999	KELLY - S1399 5 161KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	85.6	0.56527	152.6348	System Intact
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.56447	152.424	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.47332	151.5848	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.47332	151.5848	P12:115:WERE:KNOB-MKEC_115::
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.47332	151.5848	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.55919	149.8308	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.47332	149.5173	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.57316	149.1064	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.57316	148.9972	ELMCREEK7 345.00 - SUMMIT 345KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.56527	148.5321	P13:34.5-161:OPPD:FLTWTR TFMR
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.56527	148.5321	S1399 5 (FLTWTR TFMR) 161/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.50858	147.9143	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.50858	147.5868	P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.50858	147.5868	S1398 5 161.00 - S1399 5 161KV CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.60947	146.4697	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.41427	146.2548	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.41427	146.2548	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.42633	143.8795	BEATRICE - HARBINE 115KV CKT 1
09ALL_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.6	0.41438	143.4428	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.28524	142.9354	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.28524	142.9354	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.48464	142.469	HUMBOLDT (HUMBOLDT T2) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.48464	142.469	P13:115-161:NPPD:HUMBOLDT T2
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.48464	142.469	P13:115-161:NPPD:HUMBOLTS:T2
00NR_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.66712	140.3417	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.66712	140.3417	P12:115:WERE:KNOB-MKEC_115::
00NR_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.66712	140.3417	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.36852	139.8431	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.36852	139.4078	P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.36852	139.299	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.66712	136.6461	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	85.9	0.41044	136.3478	System Intact
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.40961	136.2154	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.40404	136.0763	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.28098	134.8392	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
00NR_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.60101	133.7356	BEATRICE - HARBINE 115KV CKT 1
09ALL_17		2 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	91.9	0.41092	133.5892	COOPER - ST JOE 345KV CKT 1
00NR_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.49957	132.2299	KELLY - S1399 5 161KV CKT 1
00NR_17		0 20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.66712	131.4287	P12:115:MKEC:CONCORDIA-CLIFTON::

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY	
						(MVA)	TDF	LOADING %	CONTINGENCY
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.49957	128.969	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.49957	128.5342	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.49957	128.5342	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.56213	126.6447	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	1	122.8271	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.55635	121.2515	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	86	0.56216	118.2336	System Intact
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.53942	117.858	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.40708	117.2725	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.40708	117.2725	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.57371	117.2313	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.55127	116.6267	P12:161:OPPD:S1280-COOPER
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.40776	114.8139	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	92	0.56012	114.7737	BEATRICE - STEINAUER 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.67509	196.732	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	1	181.6415	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.67603	175.7945	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.67603	175.7945	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.67603	175.7945	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.67603	172.8437	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.60336	167.3309	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.36852	163.8516	KELLY - S1399 5 161KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.47265	163.6338	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.50858	162.7208	KELLY - S1399 5 161KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	85.5	0.56527	149.5385	System Intact
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.56447	149.5305	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.47332	148.6998	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.47332	148.5909	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.47332	148.5909	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.55919	146.9344	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.47332	146.6301	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.57316	146.2093	ELMCREEK7 345.00 - SUMMIT 345KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.57316	146.2093	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.56527	145.6343	P13:34.5-161:OPPD:FLTWTR TFMR
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.56527	145.6343	S1399 5 (FLTWTR TFMR) 161/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.50858	145.0159	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.50858	144.688	P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.50858	144.688	S1398 5 161.00 - S1399 5 161KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.60947	143.4703	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.41427	143.3546	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.41427	143.3546	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.42633	140.8772	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.5	0.41438	140.5395	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.28524	139.9321	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.28524	139.9321	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.48464	139.5741	HUMBOLDT (HUMBOLDT T2) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.48464	139.5741	P13:115-161:NPPD:HUMBOLDT T2
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.48464	139.5741	P13:115-161:NPPD:HUMBOLTS:T2
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.66712	137.8417	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.66712	137.8417	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.66712	137.8417	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.36852	136.8364	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.36852	136.4006	P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.8	0.36852	136.2917	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	92	0.66712	134.0374	CLIFTON - GREENLEAF 115KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY LOADING %	CONTINGENCY
						(MVA)	TDF		
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	85.8	0.41044	133.2433	System Intact
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	91.8	0.40961	133.2048	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	91.8	0.40404	133.1744	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	91.8	0.28098	131.936	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.60101	131.2356	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	91.8	0.41092	130.6847	COOPER - ST JOE 345KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.49957	129.6212	KELLY - S1399 5 161KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.66712	128.9287	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.49957	126.3603	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.49957	126.0342	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.49957	126.0342	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.56213	124.036	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	1	120.3271	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.55635	118.7515	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	86	0.56216	115.5592	System Intact
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.53942	115.358	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.40708	114.7725	P12:161:WERE:TECH-KELL-OPPD_161::
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.40708	114.6638	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.57371	114.6226	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.55127	114.018	P12:161:OPPD:S1280-COOPER
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.56012	112.2737	BEATRICE - STEINAUER 115KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1)	92	0.40776	112.2052	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36643	150.9056	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36643	149.7911	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.20745	142.1137	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36643	132.0606	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21245	130.6428	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.36819	123.8656	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.36819	122.9547	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.213	119.3103	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.213	119.3103	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.213	119.3103	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.21511	118.2738	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.213	117.7905	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36643	114.3262	P12:115:WERE:MARS-SEEN_115::
09ALL_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.36643	113.6445	P14:035:NPPD:FAIRBYG:CAP
00NR_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.17466	104.6867	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.36819	104.6349	KELLY - SOUTH SENECA 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.14923	103.1154	G15088_T 345.00 - MOORE 345KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.21257	100.3896	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.21257	100.3896	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	20SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.8	0.21257	100.3896	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.3	0.46564	139.2083	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.3	0.46564	138.0609	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.3	0.46564	119.6143	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.4	0.26053	107.3582	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	20SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.4	0.26053	106.8291	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.3	0.23178	101.6237	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GOODYEAR JUNCTION - NORTHLAND 115KV CKT 1	178.9	0.03084	103.8945	HOYT - STRANGER CREEK 345KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03698	120.5526	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03737	116.4014	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0368	115.7707	RIEL - ROSEAU 500KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0368	115.6039	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0368	115.6039	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0368	115.4232	FORBES - ROSEAU 500KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03615	114.8518	HURON - SPLIT ROCK 345KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03698	114.7291	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03698	114.7291	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03573	114.7275	P12:345:OPPD-MEC:S3451-RAUN
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03661	114.6339	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03661	114.5644	SIIOUCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03661	114.4254	SIIOUX CITY - SIIOUCY-LNX3345.00 345KV CKT Z
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04258	114.3672	NUNDRWD - WAYSIDE 230KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03615	114.2251	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03606	113.9471	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03622	113.753	STORLA - WESSINGTON 230KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03698	110.5107	COOPER 345/22.0KV TRANSFORMER CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03698	108.8639	System Intact
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04073	108.215	FAIRBURY - HARBINE 115KV CKT 1
00NR_17	0	20SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04073	107.978	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03698	122.7354	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03737	118.5533	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.0368	117.918	RIEL - ROSEAU 500KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.0368	117.75	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.0368	117.75	ROSEAU - ROSEAU 2 500.00 500KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.0368	117.5679	FORBES - ROSEAU 500KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03615	116.9922	HURON - SPLIT ROCK 345KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03698	116.8687	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03698	116.8687	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03573	116.8671	P12:345:OPPD-MEC:S3451-RAUN
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03661	116.7727	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03661	116.7027	SIIOUCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03661	116.5627	SIIOUX CITY - SIIOUCY-LNX3345.00 345KV CKT Z
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.04258	116.504	NUNDRWD - WAYSIDE 230KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03615	116.3609	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03606	116.0809	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03622	115.8853	STORLA - WESSINGTON 230KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03698	112.6189	COOPER 345/22.0KV TRANSFORMER CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.03698	110.96	System Intact
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.04073	110.3062	FAIRBURY - HARBINE 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	714.2	0.04073	110.0674	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB
00NR_17	0	20SP	FROM->TO	G16_170S	HOYT - HOYTJS 3 115.00 115KV CKT 1	178.4	0.02942	105.4554	HOYT - STRANGER CREEK 345KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.1	1	185.5126	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.1	1	182.4391	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.1	1	132.7135	KELLY - SOUTH SENECA 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	92	1	122.8271	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	92	1	120.3271	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	92	1	106.7401	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.8	1	106.3202	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	20SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	92	1	104.2401	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.8	1	103.2701	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67566	192.0732	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67566	192.0732	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67566	192.0732	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67566	188.7509	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	1	187.5991	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67566	185.0965	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.6037	182.3986	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.5085	166.2647	KELLY - S1399 5 161KV CKT 1
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	84.1	0.5655	160.5107	System Intact

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.3681	159.3739	KELLY - S1399 5 161KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.56477	158.7988	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.47286	155.8176	GREENLEAF - KNOB HILL 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.57341	155.7333	ELMCREEK7 345.00 - SUMMIT 345KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.57341	155.7333	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.47286	155.7076	P12:115:WERE:KNOB-MKEC_115::	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.47286	155.7076	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.5655	155.4701	P13:34.5-161:OPPD:FLTWTR TFMR	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.5655	155.4701	S1399 5 (FLTWTR TFMR) 161/34.5/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.55941	155.2306	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.56427	154.7088	BEATRICE - STEINAUER 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.5655	154.5841	P13:0.69-34.5:OPPD:FLTWTR GSU	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.56555	154.536	COOPER - MOORE 345KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.60232	153.5712	BEATRICE - HARBINE 115KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.47286	153.3974	CLIFTON - GREENLEAF 115KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.47286	150.8671	P12:115:MKEC:CONCORDIA-CLIFTON::	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.66853	148.9918	GREENLEAF - KNOB HILL 115KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.48467	148.8961	HUMBOLDT (HUMBOLDT T2) 161/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.48467	148.8961	P13:115-161:NPPD:HUMBOLDT T2	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.48467	148.8961	P13:115-161:NPPD:HUMBOLT5:T2	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.66853	148.8825	P12:115:WERE:KNOB-MKEC_115::	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.66853	148.8825	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.5655	148.7233	HUMBOLDT - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.42638	147.0346	BEATRICE - HARBINE 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.66853	145.276	CLIFTON - GREENLEAF 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.41423	142.576	P12:161:WERE:TECH-KELL-OPPD_161::	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.41423	142.576	P12:161:WERE-OPPD:S1399-KELLY	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.60923	141.9866	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.66853	141.6694	P12:115:MKEC:CONCORDIA-CLIFTON::	
09ALL_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.3	0.41437	140.0686	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.50055	139.3865	KELLY - S1399 5 161KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	84.9	0.41043	136.6513	System Intact	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.40966	135.8758	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.40402	134.5902	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.50055	133.7034	HUMBOLDT - S1398 5 161.00 161KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.56386	133.352	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.50055	133.2663	P12:161:OPPD:HUMBOLT-S1398-S1399	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.50055	133.2663	S1398 5 161.00 - S1399 5 161KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	85.4	0.56374	132.3699	System Intact	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.28494	132.0006	P12:161:WERE:TECH-KELL-OPPD_161::	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.3681	131.9812	HUMBOLDT - S1398 5 161.00 161KV CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.28494	131.8906	P12:161:WERE-OPPD:S1399-KELLY	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.3681	131.5412	P12:161:OPPD:HUMBOLT-S1398-S1399	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.3681	131.4312	S1398 5 161.00 - S1399 5 161KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.55791	128.7556	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.56209	128.6	BEATRICE - STEINAUER 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.56408	128.5164	COOPER - MOORE 345KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.56209	128.3814	P12:115:NPPD:1176:BEATRICE7:HUMBOLT7:BTB	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.55226	127.745	P12:161:OPPD:S1280-COOPER	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.54043	127.4594	P12:161:OPPD:HUMBOLT-S1280	
09ALL_17	2	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	90.9	0.28075	124.5203	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.4079	122.8754	P12:161:WERE:TECH-KELL-OPPD_161::	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.4079	122.8754	P12:161:WERE-OPPD:S1399-KELLY	
00NR_17	0	20WP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R -	91.5	0.40862	120.8533	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.67566	190.7031	GREENLEAF - KNOB HILL 115KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY LOADING %	CONTINGENCY
						(MVA)	TDF		
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.67566	190.5919	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.67566	190.5919	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.67566	187.2549	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	1	186.0979	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.67566	183.6954	P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.6037	180.8743	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.5085	164.7798	KELLY - S1399 5 161KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	83.8	0.5655	158.5793	System Intact
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.3681	157.4101	KELLY - S1399 5 161KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.56477	157.1694	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.57341	154.0903	ELMCREEK7 345.00 - SUMMIT 345KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.57341	154.0903	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.47286	153.9561	GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.5655	153.9371	P13:34.5-161:OPPD:FLTWTR TFMR
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.5655	153.9371	S1399 5 (FLTWTR TFMR) 161/34.5/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.47286	153.8459	P12:115:WERE:KNOB-MKEC_115::
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.47286	153.8459	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.55941	153.5854	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.56427	153.1725	BEATRICE - STEINAUER 115KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.5655	153.0472	P13:0.69-34.5:OPPD:FLTWTR GSU
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.56555	152.9989	COOPER - MOORE 345KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.56427	152.9501	P12:115:NPPD:1176:BEATRICE:HUMBOLT7:BTB
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.60232	151.9886	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.47286	151.5306	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.47286	148.9948	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.66853	147.2949	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.66853	147.2949	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.66853	147.2949	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.48467	147.0193	HUMBOLDT (HUMBOLDT T2) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.48467	147.0193	P13:115-161:NPPD:HUMBOLDT T2
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.48467	147.0193	P13:115-161:NPPD:HUMBOLDT:T2
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.5655	146.7359	HUMBOLDT - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.42638	145.0435	BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.66853	143.575	CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.41423	140.8744	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	89.9	0.41423	140.8744	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.60923	140.0946	KNOB HILL - MARSHAL3 115.00 115KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.66853	139.9645	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.50055	137.679	KELLY - S1399 5 161KV CKT 1
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.6	0.41043	134.7718	System Intact
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.40966	133.9704	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.40402	132.6819	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.50055	131.9897	HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.56386	131.7474	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.50055	131.5521	P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.50055	131.5521	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	85.3	0.56374	130.5321	System Intact
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.28494	130.0867	P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.3681	130.0672	HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.28494	129.9764	P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.3681	129.6262	P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.3681	129.5159	S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.55791	127.1459	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.56408	126.9065	COOPER - MOORE 345KV CKT 1
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.56209	126.8807	BEATRICE - STEINAUER 115KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.56209	126.7713	P12:115:NPPD:1176:BEATRC7:HUMBOLT7:BTB	
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.55226	126.1342	P12:161:OPPD:1280-COOPER	
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.54043	125.8483	P12:161:OPPD:HUMBOLT-1280	
09ALL_17	2	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.7	0.28075	122.5899	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.4079	121.2593	P12:161:WERE:TECH-KELL-OPPD_161::	
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.4079	121.2593	P12:161:WERE-OPPD:1399-KELLY	
00NR_17	0	20WP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.4	0.40862	119.1256	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.36695	170.9177	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.36695	170.103	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.36695	155.0317	KELLY - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.20807	153.4906	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.36775	153.2521	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.36775	152.5414	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.21307	140.841	GREENLEAF - KNOB HILL 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.21307	140.841	P12:115:WERE:KNOB-MKEC_115::	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.21307	140.841	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.21307	139.008	CLIFTON - GREENLEAF 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.21211	137.9447	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.21307	137.0732	P12:115:MKEC:CONCORDIA-CLIFTON::	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.36775	136.6023	KELLY - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.36695	134.0502	P12:115:WERE:MARS-SSEN_115::	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.14908	131.3036	G15088_T 345.00 - MOORE 345KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.17312	126.987	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.14814	126.5946	MCCOOL - MOORE 345KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.21143	122.7928	GREENLEAF - KNOB HILL 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.21143	122.7928	P12:115:WERE:KNOB-MKEC_115::	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.21143	122.7928	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.17312	122.52	CARLTON JUNCTION - GENEVA 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.14973	121.1558	CRETE - FRIEND 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.21143	120.7623	CLIFTON - GREENLEAF 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.14908	119.8316	G15088_T 345.00 - PAULINE 345KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.2	0.1488	117.9348	System Intact	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.15029	117.6006	FAIRBURY (FAIRBURY T1) 115/34.5/13.8KV TRANSFORMER CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.36775	116.2914	P12:115:WERE:MARS-SSEN_115::	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.1425	116.0061	MOORE (MOORE T1) 345/115/13.8KV TRANSFORMER CKT 1	
09ALL_17	2	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.3	0.09952	111.4566	System Intact	
00NR_17	0	20WP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.5	0.15029	108.9839	System Intact	
09ALL_17	0	20WP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	184.3329	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	182.0479	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	140.3721	KELLY - SOUTH SENECA 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.6	1	123.8001	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.6	1	121.9442	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.6	1	108.2803	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.5	1	107.7606	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
00NR_17	0	20WP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.5	1	106.0119	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	20WP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.6	1	105.9625	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	25SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67482	218.6627	P12:115:MKEC:CONCORDIA-CLIFTON::	
09ALL_17	0	25SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67572	196.9781	GREENLEAF - KNOB HILL 115KV CKT 1	
09ALL_17	0	25SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67572	196.9781	P12:115:WERE:KNOB-MKEC_115::	
09ALL_17	0	25SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67572	196.9781	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::	
09ALL_17	0	25SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.67572	193.9881	CLIFTON - GREENLEAF 115KV CKT 1	
09ALL_17	0	25SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	1	186.7132	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	
09ALL_17	2	25SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.47242	183.9931	P12:115:MKEC:CONCORDIA-CLIFTON::	
09ALL_17	2	25SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.7	0.3684	181.7484	KELLY - S1399 5 161KV CKT 1	
09ALL_17	0	25SP	TO->FROM	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTVILLE N.M. COOP (NEMAHA MARSHALL R	90.3	0.50843	178.4076	KELLY - S1399 5 161KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.67572	194.1903		GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.67572	194.0792		P12:115:WERE:KNOB-MKEC_115::
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.67572	194.0792		P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.67572	191.0792		CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	1	183.78		KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.47242	181.2643		P12:115:MKEC:CONCORDIA-CLIFTON::
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.3684	179.0098		KELLY - S1399 5 161KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.50843	175.4467		KELLY - S1399 5 161KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.47306	165.7307		GREENLEAF - KNOB HILL 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.47306	165.7307		P12:115:WERE:KNOB-MKEC_115::
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.47306	165.7307		P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.47306	163.5159		CLIFTON - GREENLEAF 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.48416	160.6303		HUMBOLDT (HUMBOLDT T2) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.48416	160.6303		P13:115-161:NPPD:HUMBOLDT T2
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.48416	160.6303		P13:115-161:NPPD:HUMBOLTS:T2
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	83.8	0.56508	160.4351		System Intact
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.56429	158.5727		HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.50843	157.5578		HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.559	157.1492		HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.50843	157.1134		P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.50843	157.1134		S1398 5 161.00 - S1399 5 161KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.56377	157.0183		BEATRICE - STEINAUER 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.56377	156.9071		P12:115:NPPD:1176:BEATRICE7:HUMBOLT7:BTB
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.56377	156.796		HUMBOLDT - STEINAUER 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.57297	156.4119		ELMCREEK7 345.00 - SUMMIT 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.57297	156.4119		ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.41415	154.1105		P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.41415	153.9994		P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.28514	152.1588		P12:161:WERE:TECH-KELL-OPPD_161::
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.28514	152.048		P12:161:WERE-OPPD:S1399-KELLY
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.3684	151.6565		HUMBOLDT - S1398 5 161.00 161KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.3684	151.1028		P12:161:OPPD:HUMBOLT-S1398-S1399
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.3684	150.9921		S1398 5 161.00 - S1399 5 161KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90	0.41426	150.9087		KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.60941	150.2509		KNOB HILL - MARSHAL3 115.00 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	84.2	0.41026	145.0331		System Intact
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.40387	144.5792		HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.40944	143.3919		HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.28088	143.1439		KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.41076	141.1686		COOPER - ST JOE 345KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	90.3	0.41026	140.1674		JEFFREY ENERGY CENTER 345/26.0KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.66702	132.3015		GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.66702	132.1927		P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.66702	132.1927		P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.66702	128.493		CLIFTON - GREENLEAF 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.66702	123.27		P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.60089	121.9821		BEATRICE - HARBINE 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	1	120.3492		KNOB HILL - MARSHAL3 115.00 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.4995	117.8792		KELLY - S1399 5 161KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.4995	114.6148		HUMBOLDT - S1398 5 161.00 161KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.4995	114.1795		P12:161:OPPD:HUMBOLT-S1398-S1399
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.4995	114.1795		S1398 5 161.00 - S1399 5 161KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.56205	112.9345		HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.55627	108.1946		HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.40703	107.4821		P12:161:WERE:TECH-KELL-OPPD_161::

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.40703	107.4821	P12:161:WERE-OPPD:S1399-KELLY
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.55121	106.6148	P12:161:OPPD:S1280-COOPER
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.57368	106.0327	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.53936	105.9976	P12:161:OPPD:HUMBOLT-S1280
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	85.9	0.56208	105.8911	System Intact
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.40771	105.4529	KELLY (KELL TX-1) 161/115/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	91.9	0.56927	103.2491	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
00NR_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	99	0.21524	119.5885	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	99	0.36801	119.5217	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.3675	119.0089	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	99	0.36801	118.6126	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.3675	117.6918	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.20807	117.2461	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	99	0.17459	104.2555	CARLTON JUNCTION - NORTH HEBRON 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	99	0.21241	101.2505	GREENLEAF - KNOB HILL 115KV CKT 1
00NR_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	99	0.21241	101.2505	P12:115:WERE:KNOB-MKEC_115::
00NR_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	99	0.21241	101.2505	P12:115:WERE:MKEC:CLIFTON-KNOBHILL::
09ALL_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	98.7	0.21354	100.5875	P12:115:MKEC:CONCORDIA-CLIFTON::
00NR_17	0	25SP	TO->FROM	G16_170S	BEATRICE - HARBINE 115KV CKT 1	99	0.14903	100.5247	G15088_T 345.00 - MOORE 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.4654	155.0742	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.4654	153.8364	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.4654	134.7382	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.26034	122.4927	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.26034	121.7854	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.4654	115.0734	P12:115:WERE:JMARS-SEEN_115::
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.20591	113.8314	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.26034	111.9711	KELLY - SOUTH SENECA 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.20558	109.9882	P12:345:SUNC-NPPD:MINGO-REDWILLOW::531451-640325(1)
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.23183	109.2562	BEATRICE - HARBINE 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.20412	108.3122	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.20389	107.5636	P13:115-230:WERE:EMAN_TX_1::
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.20591	106.8464	AXTELL - G16-050-TAP 345.00 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.2192	106.8073	KELLY - TECUMSEH HILL 161KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.20523	106.7199	BLUSTEM7 345.00 - JEFFREY ENERGY CENTER 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.2192	106.542	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	105.2	0.20509	106.5408	System Intact
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.20454	106.2703	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.21417	106.1398	G15087_T 115.00 - NORTH HEBRON 115KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.2053	105.7295	GERALD GENTLEMAN STATION - RED WILLOW 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.20555	105.6351	COOPER - ST JOE 345KV CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.20509	105.5748	JEFFREY ENERGY CENTER 230/26.0KV TRANSFORMER CKT 1
09ALL_17	0	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	113.1	0.22518	105.3141	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1
09ALL_17	2	25SP	FROM->TO	G16_170S	CLIFTON - CONCORDIA 115KV CKT 1	105.2	0.16261	103.355	System Intact
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03739	120.0092	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03767	120.0084	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03738	119.9925	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0375	119.9786	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03782	115.6644	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03811	115.6642	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03781	115.6618	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03793	115.634	KELLY - MEADOWGROVE4230.00 230KV CKT 1
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03721	114.8795	RIEL - ROSEAU 500KV CKT 1
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03749	114.8651	RIEL - ROSEAU 500KV CKT 1
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0372	114.8631	RIEL - ROSEAU 500KV CKT 1
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03733	114.8492	RIEL - ROSEAU 500KV CKT 1

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03721	114.7127	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03721	114.7127	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03749	114.7122	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03749	114.7122	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0372	114.7102	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0372	114.7102	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03733	114.6963	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03733	114.6963	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03721	114.5598	FORBES - ROSEAU 500KV CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03749	114.5593	FORBES - ROSEAU 500KV CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0372	114.5434	FORBES - ROSEAU 500KV CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03733	114.5295	FORBES - ROSEAU 500KV CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03767	114.1849	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03767	114.1849	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03739	114.1849	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03739	114.1849	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03738	114.169	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03738	114.169	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0375	114.1551	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0375	114.1551	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03656	114.1268	HURON - SPLIT ROCK 345KV CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03684	114.1125	HURON - SPLIT ROCK 345KV CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03655	114.111	HURON - SPLIT ROCK 345KV CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03668	114.0971	HURON - SPLIT ROCK 345KV CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03614	114.0717	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03641	114.057	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03613	114.0558	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03624	114.0415	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03703	113.8116	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03731	113.7978	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03702	113.7958	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03714	113.7819	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03703	113.756	SIIOUXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03731	113.7422	SIIOUXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03702	113.7402	SIIOUXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03714	113.7263	SIIOUXCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03656	113.6669	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03684	113.6666	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03655	113.6646	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03668	113.6507	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03703	113.6309	SIIOUX CITY - SIIOUXCY-LNX3345.00 345KV CKT Z	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03731	113.6171	SIIOUX CITY - SIIOUXCY-LNX3345.00 345KV CKT Z	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03702	113.6151	SIIOUX CITY - SIIOUXCY-LNX3345.00 345KV CKT Z	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03714	113.6012	SIIOUX CITY - SIIOUXCY-LNX3345.00 345KV CKT Z	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04324	113.5012	NUNDRWD - WAYSIDE 230KV CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.04294	113.5003	NUNDRWD - WAYSIDE 230KV CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04293	113.498	NUNDRWD - WAYSIDE 230KV CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04307	113.4702	NUNDRWD - WAYSIDE 230KV CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03647	113.2221	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03675	113.2218	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03646	113.2202	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03663	113.2086	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03691	113.2083	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03659	113.2063	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03662	113.1924	STORLA - WESSINGTON 230KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03675	113.1786	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03767	110.0142	COOPER 345/22.0KV TRANSFORMER CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03739	110.0136	COOPER 345/22.0KV TRANSFORMER CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03738	110.0123	COOPER 345/22.0KV TRANSFORMER CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0375	109.9845	COOPER 345/22.0KV TRANSFORMER CKT 1	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03767	108.3197	System Intact	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.03739	108.3189	System Intact	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.03738	108.3038	System Intact	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0375	108.2899	System Intact	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0413	107.6557	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04127	107.6553	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.04124	107.642	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04123	107.6271	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	0	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04127	107.4186	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	4	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.4	0.04124	107.4054	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	2	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.0413	107.4052	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	3	25SP	FROM->TO	G16_170S	GRPRAR1-LNX3345.00 - HOLT.CO3 345.00 345KV CKT 1	719.5	0.04123	107.3904	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03738	123.4843	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03739	123.4843	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03767	123.4688	G15_023_1 345.00 - HOLT.CO3 345.00 345KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03782	119.0583	KELLY - MEADOWGROVE4230.00 230KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03781	119.0579	KELLY - MEADOWGROVE4230.00 230KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03811	119.0434	KELLY - MEADOWGROVE4230.00 230KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03793	119.0269	KELLY - MEADOWGROVE4230.00 230KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03721	118.2446	RIEL - ROSEAU 500KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.0372	118.2441	RIEL - ROSEAU 500KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03749	118.2436	RIEL - ROSEAU 500KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03733	118.2132	RIEL - ROSEAU 500KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03721	118.0888	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03721	118.0888	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.0372	118.0884	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.0372	118.0884	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03749	118.0878	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03749	118.0878	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03733	118.0575	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03733	118.0575	ROSEAU - ROSEAU 2 500.00 500KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03721	117.933	FORBES - ROSEAU 500KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.0372	117.9326	FORBES - ROSEAU 500KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03749	117.9179	FORBES - ROSEAU 500KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03733	117.9018	FORBES - ROSEAU 500KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03738	117.5511	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03738	117.5511	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03739	117.5511	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03739	117.5511	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03767	117.5365	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03767	117.5365	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.0375	117.5203	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.0375	117.5203	G15_023_1 345.00 345/34.5KV TRANSFORMER CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03655	117.492	HURON - SPLIT ROCK 345KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03656	117.492	HURON - SPLIT ROCK 345KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03684	117.477	HURON - SPLIT ROCK 345KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03668	117.4612	HURON - SPLIT ROCK 345KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03613	117.4358	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03614	117.4358	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03641	117.4204	P12:345:OPPD-MEC:S3451-RAUN	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03624	117.4046	P12:345:OPPD-MEC:S3451-RAUN	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03702	117.1709	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03703	117.1709	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03731	117.1563	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03714	117.1401	P12:345:UMZW:# 907 #: SC2-SR IN IA. SC2-SR 345 KV LINE	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03702	117.1142	SIUOUCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03703	117.1142	SIUOUCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03731	117.0997	SIUOUCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03714	117.0835	SIUOUCY-LNX3345.00 - SPLIT ROCK 345KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03656	117.0234	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03655	117.023	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03684	117.0226	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03668	116.9923	P12:230:UMZB:# 116 #: ST IN SD. WSG-ST-VH	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03702	116.9726	SIUOX CITY - SIUOUCY-LNX3345.00 345KV CKT Z	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03703	116.9726	SIUOX CITY - SIUOUCY-LNX3345.00 345KV CKT Z	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03731	116.9722	SIUOX CITY - SIUOUCY-LNX3345.00 345KV CKT Z	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03714	116.9419	SIUOX CITY - SIUOUCY-LNX3345.00 345KV CKT Z	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.04294	116.8538	NUNDRWD - WAYSIDE 230KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.04293	116.8533	NUNDRWD - WAYSIDE 230KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.04324	116.8401	NUNDRWD - WAYSIDE 230KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.04307	116.8226	NUNDRWD - WAYSIDE 230KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03646	116.5703	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03647	116.5703	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03675	116.5696	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03663	116.5566	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03662	116.5562	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03691	116.5417	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03659	116.5397	P12:345:UMZB:# 103 #: BD IN SD. LOSS OF LINE	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03675	116.5255	STORLA - WESSINGTON 230KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03738	113.3019	COOPER 345/22.0KV TRANSFORMER CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03739	113.3019	COOPER 345/22.0KV TRANSFORMER CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03767	113.2879	COOPER 345/22.0KV TRANSFORMER CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.0375	113.2717	COOPER 345/22.0KV TRANSFORMER CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03738	111.5755	System Intact	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.03739	111.5755	System Intact	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.03767	111.5617	System Intact	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.0375	111.5455	System Intact	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.04127	110.899	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.04123	110.886	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.04124	110.886	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.0413	110.8853	FAIRBURY - HARBINE 115KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.04127	110.658	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	3	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.04123	110.6449	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	2	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.3	0.0413	110.6442	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
00NR_17	4	25SP	TO->FROM	G16_170S	GRPRAR1-LNX3345.00 - YANKTON 345KV CKT Z	706.2	0.04124	110.6307	P12:115:NPPD:1175B:FAIRBRY7:HARBINE7:BTB	
09ALL_17	0	25SP	FROM->TO	G16_170S	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	91.1	0.22347	100.652	KELLY - TECUMSEH HILL 161KV CKT 1	
09ALL_17	3	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21094	104.9252	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	
09ALL_17	0	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21331	104.6626	KELLY - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	
09ALL_17	3	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21094	104.3837	P12:115:WERE:HOYT-KELL_115::	
09ALL_17	0	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21331	104.0308	P12:115:WERE:HOYT-KELL_115::	
09ALL_17	3	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21094	103.7519	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	
09ALL_17	0	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21331	103.2185	CIRCLEVILLE - KING HILL N.M. COOP (NEMAHA MARSHALL R.E.C. 115KV CKT 1	
09ALL_17	3	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21094	102.3981	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1	
09ALL_17	0	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21331	101.955	CIRCLEVILLE - HOYT HTI SWITCHING JUNCTION 115KV CKT 1	
09ALL_17	3	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21094	100.1418	HOYT - HOYTJN 3 115.00 115KV CKT 1	

GROUP	SCENARIO	SEASON	DIRECTION	SOURCE	MONITORED ELEMENT	RATE		CONTINGENCY		CONTINGENCY
						(MVA)	TDF	LOADING %		
09ALL_17	3	25SP	FROM->TO	G16_170S	KELLY - TECUMSEH HILL 161KV CKT 1	110.8	0.21094	100.1418	HOYT HTI SWITCHING JUNCTION - HOYTJN 3	115.00 115KV CKT 1
09ALL_17	0	25SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.7	1	183.8626	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
09ALL_17	0	25SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.7	1	180.3729	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	25SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.7	1	129.337	KELLY - SOUTH SENECA 115KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	123.1783	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	123.0695	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	120.5668	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	KNOB HILL - MARSHAL3 115.00 115KV CKT 1	91.9	1	120.3492	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	25SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.8	1	107.1608	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.9	1	106.9651	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.9	1	106.8562	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	
00NR_17	2	25SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.9	1	104.3535	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
00NR_17	0	25SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	91.9	1	104.2447	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	
09ALL_17	0	25SP	TO->FROM	G16_170S	MARSHAL3 115.00 - SMITTYVILLE N.M. COOP (NEMAHA MARSHALL R.E. 115KV CKT 1	90.8	1	103.6365	BAILEYVILLE N.M. STATION (NEMAHA MARSHALL R - SOUTH SENECA 115KV CKT 1	

***11.8 H: POWER FLOW ANALYSIS (OTHER CONSTRAINTS NOT REQUIRING
TRANSMISSION REINFORCEMENT)***

Available upon request

*11.9 H-AS: POWER FLOW ANALYSIS (OTHER CONSTRAINTS POTENTIALLY
REQUIRING AFFECTED SYSTEM MITIGATION)*

SEASON	GROUP	SCENARIO	DIRECTION	SOURCE	MONITORED ELEMENT	RATE (MVA)	TDF	CONTINGENCY LOADING %	CONTINGENCY
					Currently none at this time				