

# Definitive Interconnection System Impact Study for Generation Interconnection Requests

Southwest Power Pool  
Engineering Department  
Tariff Studies – Generator Interconnection

(DISIS-2010-001-8 Study)  
November 2013



SPP RESTRICTED

<b>Date</b>	<b>Rev.</b>	<b>Comment</b>
July 30, 2010	0	Issued Report
January 31, 2011	1	Account for Withdrawn Projects
May 13, 2011	2	Account for Withdrawn Projects
November 2, 2011	3	Account for Withdrawn Projects
December 2, 2011	4	Account for Withdrawn Projects
March 15, 2012	5	Account for Withdrawn Projects
March 6, 2013	6	Account for Withdrawn Projects
November 18, 2013	7	Account for Withdrawn Projects

## Executive Summary

Pursuant to the Southwest Power Pool (SPP) Open Access Transmission Tariff (OATT), SPP has conducted this Definitive Interconnection System Impact Study (DISIS) for certain generation interconnection requests in the SPP Generation Interconnection Queue. These interconnection requests have been clustered together for the following Impact Study. This Impact Re-Study is being performed to account for the withdrawal of higher and equally queued customers. The customers will be referred to in this study as the DISIS-2010-001 Interconnection Customers. This Impact Study analyzes the interconnecting of multiple generation interconnection requests associated with new generation totaling 2,898 MW of new generation which would be located within the transmission systems of Midwest Energy Inc. (MIDW), Nebraska Public Power District (NPPD), Oklahoma Gas and Electric (OKGE), Southwestern Public Service (SPS), Sunflower Electric Power Corporation/Mid-Kansas Electric Power LLC (SUNC)/(MKEC), Westar Energy (WERE), and Western Farmers Electric Cooperative (WFEC). The various generation interconnection requests have differing proposed in-service dates<sup>1</sup>. The generation interconnection requests included in this DISIS are listed in Appendix A by their queue number, amount, area, requested interconnection point, proposed interconnection point, and the requested in-service date.

Power flow analysis has indicated that for the power flow cases studied, 2,898 MW of nameplate generation may be interconnected with transmission system reinforcements within the SPP transmission system. Dynamic Stability and power factor analysis has determined the need for reactive compensation in accordance with Order No. 661-A for wind farm interconnection requests and those requirements are listed for each interconnection request within the contents of this report.

Dynamic Stability Analysis has determined that the transmission system will remain stable with the assigned Network Upgrades and necessary reactive compensation requirements.

The total estimated minimum cost for interconnecting the DISIS-2010-001 interconnection customers is \$92,074,000. These costs are shown in Appendices E and F. Interconnection Service to DISIS-2010-001 interconnection customers is also contingent upon higher queued customers paying for certain required network upgrades. The in service date for the DISIS customers will be deferred until the construction of these network upgrades can be completed.

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

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

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

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

**A. Generation Interconnection Requests Considered for Impact Study**

See next page.

## **A: Generation Interconnection Requests Considered for Impact Study**

Request	Amount	Service	Area	Requested Point of Interconnection	Proposed Point of Interconnection	Requested In-Service Date
ASGI-2010-010	42.2	ER	SPS	Lovington 115kV	Lovington 115kV	
GEN-2008-022	300.0	ER	SPS	Tap Eddy Co - Tolk (Chaves County) 345kV	Tap Eddy Co - Tolk (Chaves County) 345kV	9/1/2011
GEN-2008-037	101.0	ER	WFEC	Tap Washita - Blue Canyon Wind 138kV	Tap Washita - Blue Canyon Wind 138kV	11/30/2011
GEN-2008-044	197.8	ER	OKGE	Tatonga 345kV	Tatonga 345kV	12/1/2011
GEN-2008-047	300.0	ER	OKGE	Tap Hitchland - Woodward (Beaver County) 345kV	Tap Hitchland - Woodward Dbl Ckt (Beaver County) 345kV	12/31/2012
GEN-2008-088	50.6	ER	SPS	Vega 69kV	Vega 69kV	12/1/2011
GEN-2008-098	100.8	ER	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV	Tap Lacygne - Wolf Creek (Anderson County) 345kV	12/31/2011
GEN-2008-123N	89.7	ER	NPPD	Tap Guide Rock - Pauline 115kV	Tap Guide Rock - Pauline (Rosemont) 115kV	
GEN-2009-008	199.5	ER	MIDW	South Hays 230kV	South Hays 230kV	9/1/2011
GEN-2009-020	48.6	ER	MIDW	Tap Nekoma - Bazine 69kV	Tap Nekoma - Bazine (Walnut Creek) 69kV	12/31/2011
GEN-2009-040	108.0	ER	WERE	Tap Smittyville - Knob Hill 115kV	Marshall 115kV	12/31/2012
GEN-2010-003	100.8	ER	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV	Tap Lacygne - Wolf Creek (Anderson County) 345kV	12/31/2011
GEN-2010-005	300.0	ER	WERE	Tap Wichita - Woodring (Sumner County) 345kV	Viola 345kV	12/1/2012
GEN-2010-006	205.0	ER	SPS	Jones 230kV	Jones 230kV	6/1/2012
GEN-2010-009	165.6	ER	SUNCMKEC	Tap Holcomb - Spearville (Gray County) 345kV	Buckner 345kV	12/1/2011
GEN-2010-011	29.7	ER	OKGE	Tatonga 345kV	Tatonga 345kV	12/31/2011
GEN-2010-014	358.8	ER	SPS	Hitchland 345kV	Hitchland 345kV	12/31/2013
GEN-2010-015	200.1	ER	SUNCMKEC	Spearville 345kV	Spearville 345kV	1/1/2013
<b>TOTAL</b>		<b>2,898.2</b>				

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

**B. Prior Queued Interconnection Requests**

See next page.

## **B: Prior Queued Interconnection Requests**

<b>Request</b>	<b>Amount</b>	<b>Area</b>	<b>Requested/Proposed Point of Interconnection</b>	<b>Status or In-Service Date</b>
ASGI-2010-006	150.00	AECI	Tap Fairfax (AECI) - Shilder (AEPW) 138kV	AECI queue Affected Study
GEN-2001-014	96.00	WFEC	Ft Supply 138kV	On-Line
GEN-2001-026	74.00	WFEC	Washita 138kV	On-Line
GEN-2001-033	180.00	SPS	San Juan Tap 230kV	On-Line at 120MW
GEN-2001-036	80.00	SPS	Norton 115kV	On-Line
GEN-2001-037	100.00	OKGE	FPL Moreland Tap 138kV	On-Line
GEN-2001-039A	105.00	SUNCMKEC	Tap Greensburg - Ft Dodge (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-2002-009	80.00	SPS	Hansford 115kV	On-Line
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	Washita 138kV	On-Line
GEN-2004-005N	30.00	NPPD	St Francis 115kV	On Suspension
GEN-2004-014	154.50	SUNCMKEC	Spearville 230kV	On-Line at 100MW
GEN-2004-020	27.00	AEPW	Washita 34.5kV	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-2005-008	120.00	OKGE	Woodward 138kV	On-Line
GEN-2005-012	250.00	SUNCMKEC	Spearville 345kV	On-Line at 160MW
GEN-2005-013	201.00	WERE	Tap Latham - Neosho (Caney River) 345kV	On-Line
GEN-2006-002	101.00	AEPW	Sweetwater 230kV	On-Line
GEN-2006-006	205.50	SUNCMKEC	Spearville 345kV	On Schedule for 2015
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	604.00	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 Schedule for 2014
GEN-2006-038N005	80.00	NPPD	Broken Bow 115kV	On-Line
GEN-2006-038N019	80.00	NPPD	Petersburg North 115kV	On-Line
GEN-2006-040	108.00	SUNCMKEC	Mingo 115kV	On Suspension
GEN-2006-043	99.00	AEPW	Sweetwater 230kV	On-Line
GEN-2006-044	370.00	SPS	Hitchland 345kV	On-Line at 80MW



Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2006-044N	40.50	OPPD	North Petersburg 115kV	On-Line
GEN-2006-046	131.00	OKGE	Dewey 138kV	On-Line
GEN-2006-047	240.00	SPS	Tap Bushland - Deaf Smith (Buffalo) 230kV	On Suspension
GEN-2007-011	135.00	SUNCMKEC	Syracuse 115kV	On Suspension
GEN-2007-011N08	81.00	NPPD	Bloomfield 115kV	On-Line
GEN-2007-021	201.00	OKGE	Tatonga 345kV	On Schedule for 2014
GEN-2007-025	300.00	WERE	Viola 345kV	On-Line
GEN-2007-032	150.00	WFEC	Tap Clinton Junction - Clinton 138kV	On Schedule for 2013
GEN-2007-038	200.00	SUNCMKEC	Spearville 345kV	On Schedule for 2015
GEN-2007-040	200.00	SUNCMKEC	Buckner 345kV	On-Line at 132MW
GEN-2007-043	200.00	OKGE	Minco 345kV	On-Line
GEN-2007-044	300.00	OKGE	Tatonga 345kV	On Schedule for 2014
GEN-2007-046	199.50	SPS	Hitchland 115kV	On Schedule for 2014
GEN-2007-048	400.00	SPS	Tap Amarillo S - Swisher 230kV	On Schedule for 2014
GEN-2007-050	170.00	OKGE	Woodward EHV 138kV	On-Line at 150MW
GEN-2007-052	150.00	WFEC	Anadarko 138kV	On-Line
GEN-2007-062	765.00	OKGE	Woodward EHV 345kV	On Schedule for 2014
GEN-2008-003	101.00	OKGE	Woodward EHV 138kV	On-Line
GEN-2008-008	60.00	SPS	Graham 69kV	On Suspension
GEN-2008-013	300.00	OKGE	Tap Wichita - Woodring (Hunter) 345kV	On-Line at 235MW
GEN-2008-017	300.00	SUNCMKEC	Setab 345kV	On Schedule for 2015
GEN-2008-018	250.00	SPS	Finney 345kV	On Schedule for 2014
GEN-2008-019	300.00	OKGE	Tatonga 345kV	On Schedule for 2015
GEN-2008-021	42.00	WERE	Wolf Creek 345kV	On-Line
GEN-2008-023	150.00	AEPW	Hobart Junction 138kV	On-Line
GEN-2008-029	250.50	OKGE	Woodward EHV 138kV	On Schedule for 2014
GEN-2008-051	322.00	SPS	Potter County 345kV	On-Line at 161MW
GEN-2008-079	99.20	SUNCMKEC	Tap Cudahy - Ft Dodge 115kV	On-Line
GEN-2008-086N02	200.00	NPPD	Tap Ft Randle - Columbus (Madison County) 230kV	On Schedule for 2014
GEN-2008-092	201.00	MIDW	Post Rock 230kV	IA Pending
GEN-2008-119O	60.00	OPPD	S1399 161kV	On-Line
GEN-2008-124	200.10	SUNCMKEC	Ironwood 345kV	On Schedule for 2016
GEN-2008-129	80.00	MIPU	Pleasant Hill 161kV	On-Line
GEN-2009-025	60.00	OKGE	Nardins 69kV	On-Line
Gray County Wind (Montezuma)	110.00	SUNCMKEC	Gray County Tap 115kV	On-Line
Llano Estacado (White Deer)	80.00	SPS	Llano Wind 115kV	On-Line
NPPD Distributed (Broken Bow)	8.30	NPPD	Broken Bow 115kV	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 (Ord)	11.90	NPPD	Ord 115kV	On-Line
NPPD Distributed (Stuart)	2.10	NPPD	Ainsworth 115kV	On-Line
SPS Distributed (Dumas 19th St)	20.00	SPS	Dumas 19th Street 115kV	On-Line
SPS Distributed (Etter)	20.00	SPS	Etter 115kV	On-Line
SPS Distributed (Hopi)	10.00	SPS	Hopi 115kV	On-Line
SPS Distributed (Jal)	10.00	SPS	S Jal 115kV	On-Line
SPS Distributed (Lea Road)	10.00	SPS	Lea Road 115kV	On-Line
SPS Distributed (Monument)	10.00	SPS	Monument 115kV	On-Line
SPS Distributed (Moore E)	25.00	SPS	Moore East 115kV	On-Line
SPS Distributed (Ocotillo)	10.00	SPS	S_Jal 115kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
SPS Distributed (Sherman)	20.00	SPS	Sherman 115kV	On-Line
SPS Distributed (Spearman)	10.00	SPS	Spearman 69kV	On-Line
SPS Distributed (TC-Texas County)	20.00	SPS	Texas County 115kV	On-Line
<b>Total:</b>				<b>13,479.8</b>

**C. Study Groupings**

See next page.

## C. Study Groups

<b>GROUP 1: WOODWARD AREA</b>			
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	765.00	OKGE	Woodward EHV 345kV
GEN-2008-003	101.00	OKGE	Woodward EHV 138kV
GEN-2008-019	300.00	OKGE	Tatonga 345kV
GEN-2008-029	250.50	OKGE	Woodward EHV 138kV
<b>PRIOR QUEUED SUBTOTAL</b>	<b>2,754.30</b>		
GEN-2008-044	197.80	OKGE	Tatonga 345kV
GEN-2010-011	29.70	OKGE	Tatonga 345kV
<b>CURRENT CLUSTER SUBTOTAL</b>	<b>227.50</b>		
<b>AREA TOTAL</b>	<b>2,981.80</b>		

<b>GROUP 2: HITCHLAND AREA</b>			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2002-008	240.00	SPS	Hitchland 345kV
GEN-2002-009	80.00	SPS	Hansford 115kV
GEN-2003-020	160.00	SPS	Martin 115kV
GEN-2006-020S	18.90	SPS	DWS Frisco 115kV
GEN-2006-044	370.00	SPS	Hitchland 345kV
GEN-2007-046	199.50	SPS	Hitchland 115kV
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
<b>PRIOR QUEUED SUBTOTAL</b>	<b>1,183.40</b>		
GEN-2008-047	300.00	OKGE	Tap Hitchland - Woodward Dbl Ckt (Beaver County) 345kV
GEN-2010-014	358.80	SPS	Hitchland 345kV
<b>CURRENT CLUSTER SUBTOTAL</b>	<b>658.80</b>		
<b>AREA TOTAL</b>	<b>1,842.20</b>		

**GROUP 3: SPEARVILLE AREA**

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-039A	105.00	SUNCMKEC	Tap Greensburg - Ft Dodge (Shooting Star Tap) 115kV
GEN-2002-025A	150.00	SUNCMKEC	Spearville 230kV
GEN-2004-014	154.50	SUNCMKEC	Spearville 230kV
GEN-2005-012	250.00	SUNCMKEC	Spearville 345kV
GEN-2006-006	205.50	SUNCMKEC	Spearville 345kV
GEN-2006-021	101.00	SUNCMKEC	Flat Ridge Tap 138kV
GEN-2007-038	200.00	SUNCMKEC	Spearville 345kV
GEN-2007-040	200.00	SUNCMKEC	Buckner 345kV
GEN-2008-018	250.00	SPS	Finney 345kV
GEN-2008-079	99.20	SUNCMKEC	Tap Cudahy - Ft Dodge 115kV
GEN-2008-124	200.10	SUNCMKEC	Ironwood 345kV
Gray County Wind (Montezuma)	110.00	SUNCMKEC	Gray County Tap 115kV
<b>PRIOR QUEUED SUBTOTAL</b>	<b>2,025.30</b>		
GEN-2010-009	165.60	SUNCMKEC	Buckner 345kV
GEN-2010-015	200.10	SUNCMKEC	Spearville 345kV
<b>CURRENT CLUSTER SUBTOTAL</b>	<b>365.70</b>		
<b>AREA TOTAL</b>	<b>2,391.00</b>		

**GROUP 4/11: NW KANSAS AREA**

Request	Capacity	Area	Proposed Point of Interconnection
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-2006-040	108.00	SUNCMKEC	Mingo 115kV
GEN-2007-011	135.00	SUNCMKEC	Syracuse 115kV
GEN-2008-017	300.00	SUNCMKEC	Setab 345kV
GEN-2008-092	201.00	MIDW	Post Rock 230kV
<b>PRIOR QUEUED SUBTOTAL</b>	<b>1,369.00</b>		
GEN-2009-008	199.50	MIDW	South Hays 230kV
GEN-2009-020	48.60	MIDW	Tap Nekoma - Bazine (Walnut Creek) 69kV
<b>CURRENT CLUSTER SUBTOTAL</b>	<b>248.10</b>		
<b>AREA TOTAL</b>	<b>1,617.10</b>		

**GROUP 5: AMARILLO AREA**

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2002-022	240.00	SPS	Bushland 230kV
GEN-2006-047	240.00	SPS	Tap Bushland - Deaf Smith (Buffalo) 230kV
GEN-2007-048	400.00	SPS	Tap Amarillo S - Swisher 230kV
GEN-2008-051	322.00	SPS	Potter County 345kV
Llano Estacado (White Deer)	80.00	SPS	Llano Wind 115kV
<b>PRIOR QUEUED SUBTOTAL</b>	<b>1,282.00</b>		
GEN-2008-088	50.60	SPS	Vega 69kV
<b>CURRENT CLUSTER SUBTOTAL</b>	<b>50.60</b>		
<b>AREA TOTAL</b>	<b>1,332.60</b>		

<b>GROUP 6: S-TX PANHANDLE/W-TX AREA</b>			
<b>Request</b>	<b>Capacity</b>	<b>Area</b>	<b>Proposed Point of Interconnection</b>
GEN-2001-033	180.00	SPS	San Juan Tap 230kV
GEN-2001-036	80.00	SPS	Norton 115kV
GEN-2006-018	170.00	SPS	TUCO Interchange 230kV
GEN-2006-026	604.00	SPS	Hobbs 230kV & Hobbs 115kV
GEN-2008-008	60.00	SPS	Graham 69kV
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
<b>PRIOR QUEUED SUBTOTAL</b>	<b>1,144.00</b>		
ASGI-2010-010	42.20	SPS	Lovington 115kV
GEN-2008-022	300.00	SPS	Tap Eddy Co - Tolk (Chaves County) 345kV
GEN-2010-006	205.00	SPS	Jones 230kV
<b>CURRENT CLUSTER SUBTOTAL</b>	<b>547.20</b>		
<b>AREA TOTAL</b>	<b>1,691.20</b>		

**GROUP 7: SW-OKLAHOMA AREA**

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-026	74.00	WFEC	Washita 138kV
GEN-2002-005	120.00	WFEC	Red Hills Tap 138kV
GEN-2003-004	100.00	WFEC	Washita 138kV
GEN-2003-005	100.00	WFEC	Anadarko - Paradise (Blue Canyon) 138kV
GEN-2003-022	120.00	AEPW	Washita 138kV
GEN-2004-020	27.00	AEPW	Washita 34.5kV
GEN-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-2007-032	150.00	WFEC	Tap Clinton Junction - Clinton 138kV
GEN-2007-052	150.00	WFEC	Anadarko 138kV
GEN-2008-023	150.00	AEPW	Hobart Junction 138kV
<b>PRIOR QUEUED SUBTOTAL</b>	<b>1,467.20</b>		
GEN-2008-037	101.00	WFEC	Tap Washita - Blue Canyon Wind 138kV
<b>CURRENT CLUSTER SUBTOTAL</b>	<b>101.00</b>		
<b>AREA TOTAL</b>	<b>1,568.20</b>		

**GROUP 8: N-OK/S-KS AREA**

Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2010-006	150.00	AECI	Tap Fairfax (AECI) - Schilder (AEPW) 138kV
GEN-2002-004	200.00	WERE	Latham 345kV
GEN-2005-013	201.00	WERE	Tap Latham - Neosho (Caney River) 345kV
GEN-2007-025	300.00	WERE	Viola 345kV
GEN-2008-013	300.00	OKGE	Tap Wichita - Woodring (Hunter) 345kV
GEN-2008-021	42.00	WERE	Wolf Creek 345kV
GEN-2009-025	60.00	OKGE	Nardins 69kV
<b>PRIOR QUEUED SUBTOTAL</b>	<b>1,253.00</b>		
GEN-2008-098	100.80	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV
GEN-2010-003	100.80	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV
GEN-2010-005	300.00	WERE	Viola 345kV
<b>CURRENT CLUSTER SUBTOTAL</b>	<b>501.60</b>		
<b>AREA TOTAL</b>	<b>1,754.60</b>		

<b>GROUP 9/10: NEBRASKA AREA</b>			
<b>Request</b>	<b>Capacity</b>	<b>Area</b>	<b>Proposed Point of Interconnection</b>
GEN-2002-023N	0.80	NPPD	Harmony 115kV
GEN-2003-021N	75.00	NPPD	Ainsworth Wind Tap 115kV
GEN-2004-005N	30.00	NPPD	St Francis 115kV
GEN-2004-023N	75.00	NPPD	Columbus Co 115kV
GEN-2006-020N	42.00	NPPD	Bloomfield 115kV
GEN-2006-037N1	75.00	NPPD	Broken Bow 115kV
GEN-2006-038N005	80.00	NPPD	Broken Bow 115kV
GEN-2006-038N019	80.00	NPPD	Petersburg North 115kV
GEN-2006-044N	40.50	OPPD	North Petersburg 115kV
GEN-2007-011N08	81.00	NPPD	Bloomfield 115kV
GEN-2008-086N02	200.00	NPPD	Tap Ft Randle - Columbus (Madison County) 230kV
GEN-2008-119O	60.00	OPPD	S1399 161kV
NPPD Distributed (Broken Bow)	8.30	NPPD	Broken Bow 115kV
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 (Ord)	11.90	NPPD	Ord 115kV
NPPD Distributed (Stuart)	2.10	NPPD	Ainsworth 115kV
<b>PRIOR QUEUED SUBTOTAL</b>	<b>921.60</b>		
GEN-2008-123N	89.70	NPPD	Tap Guide Rock - Pauline (Rosemont) 115kV
GEN-2009-040	108.00	WERE	Marshall 115kV
<b>CURRENT CLUSTER SUBTOTAL</b>	<b>197.70</b>		
<b>AREA TOTAL</b>	<b>1,119.30</b>		



**GROUP 12: NW-AR AREA**

Request	Capacity	Area	Proposed Point of Interconnection
AREA TOTAL	0.00		

**GROUP 13: NW MISSOURI AREA**

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2008-129	80.00	MIPU	Pleasant Hill 161kV
PRIOR QUEUED SUBTOTAL	80.00		
AREA TOTAL	80.00		

**GROUP 14: S-OKLAHOMA AREA**

Request	Capacity	Area	Proposed Point of Interconnection
AREA TOTAL	0.00		

CLUSTER TOTAL (CURRENT STUDY)	2,898.2	MW
PQ TOTAL (PRIOR QUEUED)	13,479.8	MW
CLUSTER TOTAL (INCLUDING PRIOR QUEUED)	16,378.0	MW

**D. Proposed Point of Interconnection One line Diagrams**

Refer to the separately posted Facility Study for each request for the most up to date one-line.

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

Important Note:

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

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

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

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

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

# Appendix E. Cost Allocation Per Request

(Including Previously Allocated Network Upgrades\*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
<b>ASGI-2010-010</b>			
ASGI-2010-010 Interconnection Costs See Online Diagram.	Current Study	\$0.00	\$0.00
Beaver - Woodward 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Border - Tuco Interchange 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Hitchland - Beaver 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 & Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$9,106,306.00
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>	<b>\$0.00</b>	

## GEN-2008-022

GEN-2008-022 Interconnection Costs See Online Diagram.	Current Study	\$13,042,997.00	\$13,042,997.00
Beaver - Woodward 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Border - Tuco Interchange 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00

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

<b>Interconnection Request and Upgrades</b>	<b>Upgrade Type</b>	<b>Allocated Cost</b>	<b>Upgrade Cost</b>
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Hitchland - Beaver 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 & Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$9,106,306.00
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>	\$13,042,997.00	

#### **GEN-2008-037**

GEN-2008-037 Interconnection Costs See Oneline Diagram.	Current Study	\$1,500,000.00	\$1,500,000.00
Washita - Gracemont 138kV CKT 2 Build approximately 11 miles of 138kV.	Current Study	\$5,621,986.00	\$5,621,986.00
	<b>Current Study Total</b>	\$7,121,986.00	

#### **GEN-2008-044**

GEN-2008-044 Interconnection Costs See Oneline Diagram.	Current Study	\$3,403,020.00	\$3,403,020.00
Border - Tuco Interchange 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00

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

<b>Interconnection Request and Upgrades</b>	<b>Upgrade Type</b>	<b>Allocated Cost</b>	<b>Upgrade Cost</b>
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 & Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$9,106,306.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>	<b>\$3,403,020.00</b>	

### **GEN-2008-047**

GEN-2008-047 Interconnection Costs See Online Diagram.	Current Study	\$16,845,000.00	\$16,845,000.00
Beaver - Woodward 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Border - Tuco Interchange 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Finney Switching Station - Holcomb 345KV CKT 2 Per GEN-2006-049 Facility Study	Previously Allocated		\$10,507,445.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 & Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$9,106,306.00
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>	<b>\$16,845,000.00</b>	

### **GEN-2008-088**

GEN-2008-088 Interconnection Costs See Online Diagram.	Current Study	\$759,933.00	\$759,933.00
Switch 2749 - Wildorado 69kV CKT 1 Rebuild approximately 4 miles of 69kV.	Current Study	\$3,343,000.00	\$3,343,000.00

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

<b>Interconnection Request and Upgrades</b>	<b>Upgrade Type</b>	<b>Allocated Cost</b>	<b>Upgrade Cost</b>
Beaver - Woodward 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Border - Tuco Interchange 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Hitchland - Beaver 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 & Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$9,106,306.00
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>	\$4,102,933.00	

### GEN-2008-098

GEN-2008-098 Interconnection Costs See Online Diagram.	Current Study	\$14,500,000.00	\$14,500,000.00
Cleveland - Sooner 345KV CKT 1 Balanced Portfolio: Cleveland - Sooner 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$70,806,000.00
	<b>Current Study Total</b>	\$14,500,000.00	

### GEN-2008-123N

GEN-2008-123N Interconnection Costs See Online Diagram. Includes 115kV breakers at Guide Rock.	Current Study	\$6,700,000.00	\$6,700,000.00
Axtell - PostRock 345KV CKT 1 Balanced Portfolio: PostRock - Axtell 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$93,302,649.00
	<b>Current Study Total</b>	\$6,700,000.00	

### GEN-2009-008

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

<b>Interconnection Request and Upgrades</b>	<b>Upgrade Type</b>	<b>Allocated Cost</b>	<b>Upgrade Cost</b>
GEN-2009-008 Interconnection Costs See Online Diagram.	Current Study	\$4,303,000.00	\$4,303,000.00
Axtell - PostRock 345KV CKT 1 Balanced Portfolio: PostRock - Axtell 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$93,302,649.00
Clark - Thistle 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,131.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Spearville - Postrock 345kV CKT 1 Balanced Portfolio: Spearville - PostRock 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$77,703,351.00
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,131.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
	<b>Current Study Total</b>	<b>\$4,303,000.00</b>	

## **GEN-2009-020**

GEN-2009-020 Interconnection Costs See Online Diagram.	Current Study	\$1,664,657.00	\$1,664,657.00
Axtell - PostRock 345KV CKT 1 Balanced Portfolio: PostRock - Axtell 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$93,302,649.00
Beaver - Woodward 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Clark - Thistle 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,131.00
Hitchland - Beaver 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Iatan - Nashua 345KV CKT 1 Balanced Portfolio: Iatan - Nashua 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$49,824,000.00
Spearville - Postrock 345kV CKT 1 Balanced Portfolio: Spearville - PostRock 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$77,703,351.00

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



<b>Interconnection Request and Upgrades</b>	<b>Upgrade Type</b>	<b>Allocated Cost</b>	<b>Upgrade Cost</b>
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,131.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
	<b>Current Study Total</b>	<b>\$1,664,657.00</b>	
<b>GEN-2009-040</b>			
GEN-2009-040 Interconnection Costs See Online Diagram.	Current Study	\$5,240,000.00	\$5,240,000.00
	<b>Current Study Total</b>	<b>\$5,240,000.00</b>	
<b>GEN-2010-003</b>			
GEN-2010-003 Interconnection Costs See Online Diagram.	Current Study	\$379,000.00	\$379,000.00
Cleveland - Sooner 345KV CKT 1 Balanced Portfolio: Cleveland - Sooner 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$70,806,000.00
	<b>Current Study Total</b>	<b>\$379,000.00</b>	
<b>GEN-2010-005</b>			
GEN-2010-005 Interconnection Costs See Online Diagram.	Current Study	\$26,000.00	\$26,000.00
Cleveland - Sooner 345KV CKT 1 Balanced Portfolio: Cleveland - Sooner 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		\$70,806,000.00
	<b>Current Study Total</b>	<b>\$26,000.00</b>	
<b>GEN-2010-006</b>			
GEN-2010-006 Interconnection Costs See Online Diagram.	Current Study	\$1,408,514.00	\$1,408,514.00
Beaver - Woodward 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 & Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$9,106,306.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>	\$1,408,514.00	

### GEN-2010-009

GEN-2010-009 Interconnection Costs See Oneline Diagram.	Current Study	\$5,014,906.00	\$5,014,906.00
Axtell - PostRock 345KV CKT 1 Balanced Portfolio: PostRock - Axtell 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$93,302,649.00
Border - Tuco Interchange 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Clark - Thistle 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,131.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Spearville - Postrock 345kV CKT 1 Balanced Portfolio: Spearville - PostRock 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$77,703,351.00
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,131.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>	\$5,014,906.00	

### GEN-2010-011

GEN-2010-011 Interconnection Costs See Oneline Diagram. Costs included in GEN-2008-044 Interconnection	Current Study	\$0.00	\$0.00
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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
Border - Tuco Interchange 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 & Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$9,106,306.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>		\$0.00

#### GEN-2010-014

GEN-2010-014 Interconnection Costs See Online Diagram.	Current Study	\$3,307,387.00	\$3,307,387.00
Beaver - Woodward 345kV Dbl CKT Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$226,790,727.00
Border - Tuco Interchange 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Finney Switching Station - Holcomb 345KV CKT 2 Per GEN-2006-049 Facility Study	Previously Allocated		\$10,507,445.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 & Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		\$9,106,306.00

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

<b>Interconnection Request and Upgrades</b>	<b>Upgrade Type</b>	<b>Allocated Cost</b>	<b>Upgrade Cost</b>
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>	\$3,307,387.00	
<b>GEN-2010-015</b>			
GEN-2010-015 Interconnection Costs See Oneline Diagram.	Current Study	\$5,014,906.00	\$5,014,906.00
Axtell - PostRock 345KV CKT 1 Balanced Portfolio: PostRock - Axtell 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$93,302,649.00
Border - Tuco Interchange 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$143,377,063.00
Clark - Thistle 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,131.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		\$8,883,760.00
Spearville - Postrock 345kV CKT 1 Balanced Portfolio: Spearville - PostRock 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		\$77,703,351.00
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$291,088,131.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		\$168,750,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		\$212,090,000.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		\$14,900,907.00
Woodward XFMR 345/138/13.8kV CKT 2 Balanced Portfolio: Woodward 345/138kV Transformer CKT 2 & 50 MVAR Reactor (Total Project E&C Cost Shown).	Previously Allocated		\$15,000,000.00
	<b>Current Study Total</b>	\$5,014,906.00	
<b>TOTAL CURRENT STUDY COSTS:</b>		<b>\$92,074,306.00</b>	

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

**F. Cost Allocation per Proposed Study Network Upgrade**

Important Note:

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

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

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

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

# Appendix F. Cost Allocation by Upgrade

<b>ASGI-2010-010 Interconnection Costs</b>		<b>\$0.00</b>
See Online Diagram.		
	ASGI-2010-010	\$0.00
	<b>Total Allocated Costs</b>	<b>\$0.00</b>
<b>GEN-2008-022 Interconnection Costs</b>		<b>\$13,042,997.00</b>
See Online Diagram.		
	GEN-2008-022	\$13,042,997.00
	<b>Total Allocated Costs</b>	<b>\$13,042,997.00</b>
<b>GEN-2008-037 Interconnection Costs</b>		<b>\$1,500,000.00</b>
See Online Diagram.		
	GEN-2008-037	\$1,500,000.00
	<b>Total Allocated Costs</b>	<b>\$1,500,000.00</b>
<b>GEN-2008-044 Interconnection Costs</b>		<b>\$3,403,020.00</b>
See Online Diagram.		
	GEN-2008-044	\$3,403,020.00
	<b>Total Allocated Costs</b>	<b>\$3,403,020.00</b>
<b>GEN-2008-047 Interconnection Costs</b>		<b>\$16,845,000.00</b>
See Online Diagram.		
	GEN-2008-047	\$16,845,000.00
	<b>Total Allocated Costs</b>	<b>\$16,845,000.00</b>
<b>GEN-2008-088 Interconnection Costs</b>		<b>\$759,933.00</b>
See Online Diagram.		
	GEN-2008-088	\$759,933.00
	<b>Total Allocated Costs</b>	<b>\$759,933.00</b>
<b>GEN-2008-098 Interconnection Costs</b>		<b>\$14,500,000.00</b>
See Online Diagram.		
	GEN-2008-098	\$14,500,000.00
	<b>Total Allocated Costs</b>	<b>\$14,500,000.00</b>
<b>GEN-2008-123N Interconnection Costs</b>		<b>\$6,700,000.00</b>
See Online Diagram. Includes 115kV breakers at Guide Rock.		
	GEN-2008-123N	\$6,700,000.00

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

	<b>Total Allocated Costs</b>	<b>\$6,700,000.00</b>
<b>GEN-2009-008 Interconnection Costs</b>		<b>\$4,303,000.00</b>
See Online Diagram.		
	GEN-2009-008	\$4,303,000.00
	<b>Total Allocated Costs</b>	<b>\$4,303,000.00</b>
<b>GEN-2009-020 Interconnection Costs</b>		<b>\$1,664,657.00</b>
See Online Diagram.		
	GEN-2009-020	\$1,664,657.00
	<b>Total Allocated Costs</b>	<b>\$1,664,657.00</b>
<b>GEN-2009-040 Interconnection Costs</b>		<b>\$5,240,000.00</b>
See Online Diagram.		
	GEN-2009-040	\$5,240,000.00
	<b>Total Allocated Costs</b>	<b>\$5,240,000.00</b>
<b>GEN-2010-003 Interconnection Costs</b>		<b>\$379,000.00</b>
See Online Diagram.		
	GEN-2010-003	\$379,000.00
	<b>Total Allocated Costs</b>	<b>\$379,000.00</b>
<b>GEN-2010-005 Interconnection Costs</b>		<b>\$26,000.00</b>
See Online Diagram.		
	GEN-2010-005	\$26,000.00
	<b>Total Allocated Costs</b>	<b>\$26,000.00</b>
<b>GEN-2010-006 Interconnection Costs</b>		<b>\$1,408,514.00</b>
See Online Diagram.		
	GEN-2010-006	\$1,408,514.00
	<b>Total Allocated Costs</b>	<b>\$1,408,514.00</b>
<b>GEN-2010-009 Interconnection Costs</b>		<b>\$5,014,906.00</b>
See Online Diagram.		
	GEN-2010-009	\$5,014,906.00
	<b>Total Allocated Costs</b>	<b>\$5,014,906.00</b>
<b>GEN-2010-011 Interconnection Costs</b>		<b>\$0.00</b>
See Online Diagram. Costs included in GEN-2008-044 Interconnection		
	GEN-2010-011	\$0.00

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

		<b>Total Allocated Costs</b>	<b>\$0.00</b>
<b>GEN-2010-014 Interconnection Costs</b>			<b>\$3,307,387.00</b>
See Online Diagram.			
	GEN-2010-014		\$3,307,387.00
		<b>Total Allocated Costs</b>	<b>\$3,307,387.00</b>
<b>GEN-2010-015 Interconnection Costs</b>			<b>\$5,014,906.00</b>
See Online Diagram.			
	GEN-2010-015		\$5,014,906.00
		<b>Total Allocated Costs</b>	<b>\$5,014,906.00</b>
<b>Switch 2749 - Wildorado 69kV CKT 1</b>			<b>\$3,343,000.00</b>
Rebuild approximately 4 miles of 69kV.			
	GEN-2008-088		\$3,343,000.00
		<b>Total Allocated Costs</b>	<b>\$3,343,000.00</b>
<b>Washita - Gracemont 138kV CKT 2</b>			<b>\$5,621,986.00</b>
Build approximately 11 miles of 138kV.			
	GEN-2008-037		\$5,621,986.00
		<b>Total Allocated Costs</b>	<b>\$5,621,986.00</b>

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



**G. Power Flow ACCC Analysis (Constraints Used for Mitigation)**

See next page.

GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED NAME	RATEB	TDF	TC%LOADING	CONTINGENCY NAME
00G08_088	0	14SP	G08_088	'TO->FROM'	'SWITCH 2749 - WILDORADO 69KV CKT 1'	35	1	111.5171	'BASE CASE'
00G08_088	0	14WP	G08_088	'TO->FROM'	'SWITCH 2749 - WILDORADO 69KV CKT 1'	35	1	119.5816	'BASE CASE'
00G08_088	0	19SP	G08_088	'TO->FROM'	'SWITCH 2749 - WILDORADO 69KV CKT 1'	35	1	108.5814	'BASE CASE'
00G08_088	0	19WP	G08_088	'TO->FROM'	'SWITCH 2749 - WILDORADO 69KV CKT 1'	35	1	117.6693	'BASE CASE'
00G08_088	0	24SP	G08_088	'TO->FROM'	'SWITCH 2749 - WILDORADO 69KV CKT 1'	35	1	104.6263	'BASE CASE'
05ALL	0	14G	G08_088	'TO->FROM'	'SWITCH 2749 - WILDORADO 69KV CKT 1'	35	1	121.1987	'BASE CASE'
05ALL	0	14G	G08_022	'FROM->TO'	'SPSSPPTIESB'	620	0.43002	113.3518	'BASE CASE'
05ALL	0	14G	G08_088	'FROM->TO'	'SPSSPPTIESB'	620	0.41406	113.3518	'BASE CASE'
05ALL	0	14G	G08_022	'FROM->TO'	'SPSSPPTIESC1'	620	0.43002	113.3518	'BASE CASE'
05ALL	0	14G	G08_088	'FROM->TO'	'SPSSPPTIESC1'	620	0.41406	113.3518	'BASE CASE'
05G08_088	0	14G	G08_088	'TO->FROM'	'SWITCH 2749 - WILDORADO 69KV CKT 1'	35	1	121.2541	'BASE CASE'

**H. Power Flow ACCC Analysis (Other Constraints Not Requiring Mitigation)**

See next page

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GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED NAME	RATEB	TDF	TC % LOADING	CONTINGENCY NAME
00G08_022	0	145P	G08_022	'FROM->TO'	'GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1'	112	0.03085	100.0666	'GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1'
00G08_022	0	145P	G08_022	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.05564	112.6428	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1'
00G08_022	0	145P	G08_022	'FROM->TO'	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03628	121.8446	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'
00G08_022	0	145P	G08_022	'FROM->TO'	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03628	124.539	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'
00G08_022	0	145P	G08_022	'FROM->TO'	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.0377	117.8586	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'
00G08_022	0	145P	G08_022	'FROM->TO'	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.0377	120.465	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'
00G08_037	0	245P	G08_037	'FROM->TO'	'TUCXFR345230'	300	0.04268	101.3972	'BASE CASE'
00G08_044	0	145P	G08_044	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.05434	100.242	'NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1'
00G08_044	0	245P	G08_044	'FROM->TO'	'TUCXFR345230'	300	0.03305	105.9796	'BASE CASE'
00G08_044	0	245P	G08_044	'FROM->TO'	'TUCO INTERCHANGE (SIEM 8743066) 345/230/13.2KV TRANSFORMER CKT 2'	560	0.05845	101.8101	'TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1'
00G08_044	0	245P	G08_044	'FROM->TO'	'TUCO INTERCHANGE (SIEM 8743066) 345/230/13.2KV TRANSFORMER CKT 2'	560	0.05845	100.7662	'TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1'
00G08_044	0	245P	G08_044	'FROM->TO'	'TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1'	560	0.05924	103.0697	'TUCO INTERCHANGE (SIEM 8743066) 345/230/13.2KV TRANSFORMER CKT 2'
00G08_044	0	245P	G08_044	'FROM->TO'	'TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1'	560	0.05924	102.1485	'TUCO INTERCHANGE (SIEM 8743066) 345/230/13.2KV TRANSFORMER CKT 2'
00G08_047	0	245P	G08_047	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.04248	100.9133	'HITCHLAND INTERCHANGE - OCHILTREE 230KV CKT 1'
00G08_047	0	245P	G08_047	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.04248	103.3323	'HITCHLAND INTERCHANGE - OCHILTREE 230KV CKT 1'
00G08_047	0	245P	G08_047	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.04248	101.0853	'OCHILTREE (H TP80219401) 230/115/13.2KV TRANSFORMER CKT 1'
00G08_047	0	245P	G08_047	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.04248	103.5837	'OCHILTREE (H TP80219401) 230/115/13.2KV TRANSFORMER CKT 1'
00G08_088	0	245P	G08_088	'TO->FROM'	'CANYON EAST SUB - RANDALL COUNTY INTERCHANGE 115KV CKT 1'	96	0.0519	101.5806	'BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
00G08_098	0	245P	G08_098	'FROM->TO'	'TUCXFR345230'	300	0.03157	101.6404	'BASE CASE'
00G09_008	0	14WP	G09_008	'FROM->TO'	'MULLERGREEN (MULGRENG6) 230/115/13.8KV TRANSFORMER CKT 1'	119.5	0.07055	103.3291	'HEIZER 6 230.00 - MULLERGREEN 230KV CKT 1'
00G09_008	0	14WP	G09_008	'FROM->TO'	'MULLERGREEN (MULGRENG6) 230/115/13.8KV TRANSFORMER CKT 1'	119.5	0.07055	105.0708	'HEIZER 6 230.00 - MULLERGREEN 230KV CKT 1'
00G09_008	0	14WP	G09_008	'FROM->TO'	'MULLERGREEN (MULGRENG6) 230/115/13.8KV TRANSFORMER CKT 1'	119.5	0.07055	103.3031	'HEIZER 6 230.00 (HEIZER T1) 230/115/12.5KV TRANSFORMER CKT 1'
00G09_008	0	14WP	G09_008	'FROM->TO'	'MULLERGREEN (MULGRENG6) 230/115/13.8KV TRANSFORMER CKT 1'	119.5	0.07055	105.0416	'HEIZER 6 230.00 (HEIZER T1) 230/115/12.5KV TRANSFORMER CKT 1'
00G09_008	0	245P	G09_008	'FROM->TO'	'MULLERGREEN (MULGRENG6) 230/115/13.8KV TRANSFORMER CKT 1'	119.5	0.07144	103.3721	'HEIZER 6 230.00 - MULLERGREEN 230KV CKT 1'
00G09_008	0	245P	G09_008	'FROM->TO'	'MULLERGREEN (MULGRENG6) 230/115/13.8KV TRANSFORMER CKT 1'	119.5	0.07144	106.8982	'HEIZER 6 230.00 - MULLERGREEN 230KV CKT 1'
00G09_008	0	245P	G09_008	'FROM->TO'	'MULLERGREEN (MULGRENG6) 230/115/13.8KV TRANSFORMER CKT 1'	119.5	0.07144	103.3474	'HEIZER 6 230.00 (HEIZER T1) 230/115/12.5KV TRANSFORMER CKT 1'
00G09_008	0	245P	G09_008	'FROM->TO'	'MULLERGREEN (MULGRENG6) 230/115/13.8KV TRANSFORMER CKT 1'	119.5	0.07144	106.8712	'HEIZER 6 230.00 (HEIZER T1) 230/115/12.5KV TRANSFORMER CKT 1'
00G10_003	0	245P	G10_003	'FROM->TO'	'TUCXFR345230'	300	0.03157	101.6404	'BASE CASE'
00G10_005	0	195P	G10_005	'FROM->TO'	'GILL ENERGY CENTER EAST (GEC3 GSU) 138/69/14.4KV TRANSFORMER CKT 1'	137.5	0.0368	128.77	'GILL ENERGY CENTER SOUTH - GILL ENERGY CENTER WEST 138KV CKT Z1
00G10_005	0	245P	G10_005	'FROM->TO'	'TUCXFR345230'	300	0.03178	103.2167	'BASE CASE'
00G10_005	0	245P	G10_005	'FROM->TO'	'GILL ENERGY CENTER EAST (GEC3 GSU) 138/69/14.4KV TRANSFORMER CKT 1'	137.5	0.03652	129.6474	'GILL ENERGY CENTER SOUTH - GILL ENERGY CENTER WEST 138KV CKT Z1
00G10_005	0	245P	G10_005	'FROM->TO'	'TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1'	560	0.05696	100.1941	'TUCO INTERCHANGE (SIEM 8743066) 345/230/13.2KV TRANSFORMER CKT 1'
00G10_006	0	145P	G10_006	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.04189	101.2846	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1'
00G10_006	0	145P	G10_006	'FROM->TO'	'LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.12856	105.532	'JONES STATION - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
00G10_006	0	145P	G10_006	'FROM->TO'	'LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.12856	110.9233	'JONES STATION - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
00G10_006	0	145P	G10_006	'FROM->TO'	'LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.13543	100.8581	'LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1'
00G10_006	0	145P	G10_006	'FROM->TO'	'LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.13543	105.9462	'LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1'
00G10_006	0	245P	G10_006	'TO->FROM'	'ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1'	160	0.14222	100	'LUBBOCK SOUTH INTERCHANGE - WOLFORTH INTERCHANGE 230KV CKT 1'
00G10_011	0	145P	G10_011	'FROM->TO'	'NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1'	493	0.05434	100.242	'NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1'
00G10_011	0	245P	G10_011	'FROM->TO'	'TUCXFR345230'	300	0.03305	105.9796	'BASE CASE'
00G10_011	0	245P	G10_011	'FROM->TO'	'TUCO INTERCHANGE (SIEM 8743066) 345/230/13.2KV TRANSFORMER CKT 2'	560	0.05845	101.8101	'TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1'
00G10_011	0	245P	G10_011	'FROM->TO'	'TUCO INTERCHANGE (SIEM 8743066) 345/230/13.2KV TRANSFORMER CKT 2'	560	0.05845	100.7662	'TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1'
00G10_011	0	245P	G10_011	'FROM->TO'	'TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1'	560	0.05924	103.0697	'TUCO INTERCHANGE (SIEM 8743066) 345/230/13.2KV TRANSFORMER CKT 2'
00G10_011	0	245P	G10_011	'FROM->TO'	'TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1'	560	0.05924	102.1485	'TUCO INTERCHANGE (SIEM 8743066) 345/230/13.2KV TRANSFORMER CKT 2'
00G10_014	0	245P	G10_014	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.04909	106.4621	'HITCHLAND INTERCHANGE - OCHILTREE 230KV CKT 1'
00G10_014	0	245P	G10_014	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.04909	108.8408	'HITCHLAND INTERCHANGE - OCHILTREE 230KV CKT 1'
00G10_014	0	245P	G10_014	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.04909	106.6206	'OCHILTREE (H TP80219401) 230/115/13.2KV TRANSFORMER CKT 1'
00G10_014	0	245P	G10_014	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.04909	109.0675	'OCHILTREE (H TP80219401) 230/115/13.2KV TRANSFORMER CKT 1'
00G10_014	0	245P	G10_014	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.06492	100.5735	'POTTER COUNTY INTERCHANGE (WALK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1'
00G10_014	0	245P	G10_014	'FROM->TO'	'HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1'	288	0.06492	101.1392	'POTTER COUNTY INTERCHANGE (WALK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1'
0	0	145P	ASGI_10_010	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.05466	101.2846	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1'
0	0	145P	G08_022	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.05569	101.2846	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1'
0	0	145P	G10_006	'TO->FROM'	'BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1'	160	0.04189	101.2846	'DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1'
0	0	145P	G10_006	'FROM->TO'	'LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.12856	105.532	'JONES STATION - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
0	0	145P	G10_006	'FROM->TO'	'LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.12856	110.9233	'JONES STATION - LUBBOCK EAST INTERCHANGE 230KV CKT 1'
0	0	145P	ASGI_10_010	'FROM->TO'	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03043	118.3236	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	145P	G08_022	'FROM->TO'	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03631	118.3236	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	145P	ASGI_10_010	'FROM->TO'	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03043	121.1305	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	145P	G08_022	'FROM->TO'	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03631	121.1305	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	145P	ASGI_10_010	'FROM->TO'	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03151	114.2557	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	145P	G08_022	'FROM->TO'	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03772	114.2557	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	145P	ASGI_10_010	'FROM->TO'	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03151	116.9792	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	145P	G08_022	'FROM->TO'	'OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.03772	116.9792	'ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	145P	G10_006	'FROM->TO'	'LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.13543	100.8581	'LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	145P	G10_006	'FROM->TO'	'LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1'	252	0.13543	105.9462	'LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1'
0	0	195P	G10_005	'FROM->TO'	'GILL ENERGY CENTER EAST (GEC3 GSU) 138/69/14.4KV TRANSFORMER CKT 1'	137.5	0.03679	115.2465	'GILL ENERGY CENTER SOUTH - GILL ENERGY CENTER WEST 138KV CKT Z1
0	0	245P	G08_037	'FROM->TO'	'TUCXFR345230'	300	0.04267	100.4708	'BASE CASE'
0	0	245P	G10_011	'FROM->TO'	'TUCXFR345230'	300	0.03296	100.4708	'BASE CASE'
0	0	245P	G08_098	'FROM->TO'	'TUCXFR345230'	300	0.03154	100.4708	'BASE CASE'
0	0	245P	G08_044	'FROM->TO'	'TUCXFR345230'	300	0.03296	100.4708	'BASE CASE'
0	0	245P	G10_005	'FROM->TO'	'TUCXFR345230'	300	0.03164	100.4708	'BASE CASE'
0	0	245P	G10_003	'FROM->TO'	'TUCXFR345230'	300	0.03154	100.4708	'BASE CASE'
0	0	245P	G08_088	'TO->FROM'	'CANYON EAST SUB - RANDALL COUNTY INTERCHANGE 115KV CKT 1'	96	0.05189	100	'BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
0	0	245P	G10_006	'TO->FROM'	'ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1'	160	0.14222	100	'LUBBOCK SOUTH INTERCHANGE - WOLFORTH INTERCHANGE 230KV CKT 1'
0	0	245P	G09_008	'FROM->TO'	'MULLERGREEN (MULGRENG6) 230/115/13.8KV TRANSFORMER CKT 1'	119.5	0.07144	100.0763	'HEIZER 6 230.00 - MULLERGREEN 230KV CKT 1'
0	0	245P	G10_005	'FROM->TO'	'GILL ENERGY CENTER EAST (GEC3 GSU) 138/69/14.4KV TRANSFORMER CKT 1'	137.5	0.03651	116.3985	'GILL ENERGY CENTER SOUTH - GILL ENERGY CENTER WEST 138KV CKT Z1



GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED NAME	RATEB	TDF	TC % LOADING	CONTINGENCY NAME
01ALL	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04479	126.2167	'DBL-WICH-THI'
01ALL	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.0567	126.2167	'DBL-WICH-THI'
01ALL	0	14G	G08_088	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04418	126.2167	'DBL-WICH-THI'
01ALL	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05468	126.2167	'DBL-WICH-THI'
01ALL	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.0723	126.2167	'DBL-WICH-THI'
01ALL	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05464	126.2167	'DBL-WICH-THI'
01ALL	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.0567	126.2167	'DBL-WICH-THI'
01ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07849	126.2167	'DBL-WICH-THI'
01ALL	0	14G	G09_020	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03203	152.25	'DBL-WICH-THI'
01ALL	0	14G	G08_022	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03119	152.25	'DBL-WICH-THI'
01ALL	0	14G	G08_088	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03375	152.25	'DBL-WICH-THI'
01ALL	0	14G	G10_015	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.05427	152.25	'DBL-WICH-THI'
01ALL	0	14G	G10_014	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04219	152.25	'DBL-WICH-THI'
01ALL	0	14G	G10_009	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04931	152.25	'DBL-WICH-THI'
01ALL	0	14G	G08_047	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.0432	152.25	'DBL-WICH-THI'
01ALL	0	14G	G09_020	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03203	162.679	'DBL-WICH-THI'
01ALL	0	14G	G08_022	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03119	162.679	'DBL-WICH-THI'
01ALL	0	14G	G08_088	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03375	162.679	'DBL-WICH-THI'
01ALL	0	14G	G10_015	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.05427	162.679	'DBL-WICH-THI'
01ALL	0	14G	G10_014	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04219	162.679	'DBL-WICH-THI'
01ALL	0	14G	G10_009	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04931	162.679	'DBL-WICH-THI'
01ALL	0	14G	G08_047	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.0432	162.679	'DBL-WICH-THI'
01ALL	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05655	102.3729	'DBL-HTCH-BVR'
01ALL	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05655	102.3729	'DBL-HTCH-BVR'
01ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.09624	102.3729	'DBL-HTCH-BVR'
01ALL	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05655	101.5531	'DBL-BVR-WWRD'
01ALL	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05655	101.5531	'DBL-BVR-WWRD'
01ALL	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03108	109.1174	'GENS15787 1-OKLA WIND ENERGY CENTER'
01ALL	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04435	109.1174	'GENS15787 1-OKLA WIND ENERGY CENTER'
01ALL	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03199	109.1174	'GENS15787 1-OKLA WIND ENERGY CENTER'
01ALL	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05394	109.1174	'GENS15787 1-OKLA WIND ENERGY CENTER'
01ALL	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03404	109.1174	'GENS15787 1-OKLA WIND ENERGY CENTER'
01ALL	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04435	109.1174	'GENS15787 1-OKLA WIND ENERGY CENTER'
01ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05961	109.1174	'GENS15787 1-OKLA WIND ENERGY CENTER'
01ALL	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03108	105.0066	'GENS20922 1-SLEEPING BEAR'
01ALL	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04435	105.0066	'GENS20922 1-SLEEPING BEAR'
01ALL	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03199	105.0066	'GENS20922 1-SLEEPING BEAR'
01ALL	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05394	105.0066	'GENS20922 1-SLEEPING BEAR'
01ALL	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03404	105.0066	'GENS20922 1-SLEEPING BEAR'
01ALL	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04435	105.0066	'GENS20922 1-SLEEPING BEAR'
01ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05961	105.0066	'GENS20922 1-SLEEPING BEAR'
01ALL	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03108	110.6716	'GENS20997 1-MORLND2'
01ALL	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04435	110.6716	'GENS20997 1-MORLND2'
01ALL	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03199	110.6716	'GENS20997 1-MORLND2'
01ALL	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05394	110.6716	'GENS20997 1-MORLND2'
01ALL	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03404	110.6716	'GENS20997 1-MORLND2'
01ALL	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04435	110.6716	'GENS20997 1-MORLND2'
01ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05961	110.6716	'GENS20997 1-MORLND2'
01ALL	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03108	104.3926	'GENS20998 1-MORLND3'
01ALL	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04435	104.3926	'GENS20998 1-MORLND3'
01ALL	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03199	104.3926	'GENS20998 1-MORLND3'
01ALL	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05394	104.3926	'GENS20998 1-MORLND3'
01ALL	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03404	104.3926	'GENS20998 1-MORLND3'
01ALL	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04435	104.3926	'GENS20998 1-MORLND3'
01ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05961	104.3926	'GENS20998 1-MORLND3'
01G08_044	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.11285	158.9667	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
01G08_044	0	14G	G08_044	'TO->FROM'	'GLASS MOUNTAIN - MOORELAND 138KV CKT 1'	124	0.03259	106.005	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
01G08_044	0	14G	G08_044	'FROM->TO'	'FPL SWITCH - MOORELAND 138KV CKT 1'	287	0.11285	106.8405	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
01G10_011	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.11285	158.9667	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
01G10_011	0	14G	G10_011	'TO->FROM'	'GLASS MOUNTAIN - MOORELAND 138KV CKT 1'	124	0.03259	106.005	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
01G10_011	0	14G	G10_011	'FROM->TO'	'FPL SWITCH - MOORELAND 138KV CKT 1'	287	0.11285	106.8405	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G09_008	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.0333	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G09_020	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03595	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.0475	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.11278	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G08_088	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04751	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04565	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07834	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04871	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.11278	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.08591	141.8478	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G10_011	'TO->FROM'	'GLASS MOUNTAIN - MOORELAND 138KV CKT 1'	124	0.03257	101.0275	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G08_044	'TO->FROM'	'GLASS MOUNTAIN - MOORELAND 138KV CKT 1'	124	0.03257	101.0275	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
1	0	14G	G08_098	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04082	102.8485	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
1	0	14G	G10_003	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04082	102.8485	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
02ALL	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04319	101.5758	'ELK CITY 230KV - SWEETWATER 230KV CKT 1'



GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED NAME	RATEB	TDF	TC % LOADING	CONTINGENCY NAME
02ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07764	117.3062	'DBL-WICH-THI'
02ALL	0	14G	G09_020	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03163	140.1949	'DBL-WICH-THI'
02ALL	0	14G	G08_022	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03079	140.1949	'DBL-WICH-THI'
02ALL	0	14G	G08_088	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03335	140.1949	'DBL-WICH-THI'
02ALL	0	14G	G10_015	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.05387	140.1949	'DBL-WICH-THI'
02ALL	0	14G	G10_014	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04179	140.1949	'DBL-WICH-THI'
02ALL	0	14G	G10_009	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04891	140.1949	'DBL-WICH-THI'
02ALL	0	14G	G08_047	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04279	140.1949	'DBL-WICH-THI'
02ALL	0	14G	G09_020	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03163	150.6988	'DBL-WICH-THI'
02ALL	0	14G	G08_022	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03079	150.6988	'DBL-WICH-THI'
02ALL	0	14G	G08_088	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03335	150.6988	'DBL-WICH-THI'
02ALL	0	14G	G10_015	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.05387	150.6988	'DBL-WICH-THI'
02ALL	0	14G	G10_014	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04179	150.6988	'DBL-WICH-THI'
02ALL	0	14G	G10_009	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04891	150.6988	'DBL-WICH-THI'
02ALL	0	14G	G08_047	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04279	150.6988	'DBL-WICH-THI'
02ALL	0	14G	G08_022	'FROM->TO'	'BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1'	611.9	0.13336	114.8486	'DBL-BVR-WWRD'
02ALL	0	14G	G08_088	'FROM->TO'	'BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1'	611.9	0.19484	114.8486	'DBL-BVR-WWRD'
02ALL	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04338	101.8079	'SPP-SWPS-03'
02ALL	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.0422	101.8079	'SPP-SWPS-03'
02ALL	0	14G	G08_088	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04852	101.8079	'SPP-SWPS-03'
02ALL	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03144	101.8079	'SPP-SWPS-03'
02ALL	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.06025	101.8079	'SPP-SWPS-03'
02ALL	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.0344	101.8079	'SPP-SWPS-03'
02ALL	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.0422	101.8079	'SPP-SWPS-03'
02ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.06452	101.8079	'SPP-SWPS-03'
02G08_047	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.08507	116.2435	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
02G10_014	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07741	124.2538	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
02G10_014	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07741	106.0819	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
02G10_014	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07149	109.552	'DBL-WICH-THI'
02G10_014	0	14G	G10_014	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04186	133.0779	'DBL-WICH-THI'
02G10_014	0	14G	G10_014	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04186	143.6296	'DBL-WICH-THI'
2	0	14G	G09_008	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03244	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G09_020	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03509	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04664	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.11192	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G08_088	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04665	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04479	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07748	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04785	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.11192	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.08505	113.0483	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
2	0	14G	G08_098	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04081	100	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
2	0	14G	G10_003	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04081	100	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
03ALL	0	14G	G09_008	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03231	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G09_020	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03496	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04652	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.1118	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G08_088	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04652	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04466	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07735	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04772	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.1118	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.08493	119.817	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
03ALL	0	14G	G09_008	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03231	101.86	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
03ALL	0	14G	G09_020	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03496	101.86	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
03ALL	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04652	101.86	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
03ALL	0	14G	G08_088	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04652	101.86	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
03ALL	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04466	101.86	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
03ALL	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07735	101.86	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
03ALL	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04772	101.86	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
03ALL	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.08493	101.86	'TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1'
03ALL	0	14G	G09_008	'TO->FROM'	'HAYS PLANT - SOUTH HAYS 115KV CKT 1'	99	0.13999	122.3963	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
03ALL	0	14G	G09_020	'TO->FROM'	'HAYS PLANT - SOUTH HAYS 115KV CKT 1'	99	0.03271	122.3963	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
03ALL	0	14G	G10_015	'TO->FROM'	'HAYS PLANT - SOUTH HAYS 115KV CKT 1'	99	0.03347	122.3963	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
03ALL	0	14G	G09_008	'TO->FROM'	'KNOLL - N HAYS3 115.00 115KV CKT 1'	88	0.13999	101.0512	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
03ALL	0	14G	G09_020	'TO->FROM'	'KNOLL - N HAYS3 115.00 115KV CKT 1'	88	0.03271	101.0512	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
03ALL	0	14G	G10_015	'TO->FROM'	'KNOLL - N HAYS3 115.00 115KV CKT 1'	88	0.03347	101.0512	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
03ALL	0	14G	G09_008	'FROM->TO'	'HAYS PLANT - VINE STREET 115KV CKT 1'	88	0.13999	114.514	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
03ALL	0	14G	G09_020	'FROM->TO'	'HAYS PLANT - VINE STREET 115KV CKT 1'	88	0.03271	114.514	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
03ALL	0	14G	G10_015	'FROM->TO'	'HAYS PLANT - VINE STREET 115KV CKT 1'	88	0.03347	114.514	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
03ALL	0	14G	G08_088	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.03308	128.5526	'POST ROCK - SPEARVILLE 345KV CKT 1'
03ALL	0	14G	G10_015	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.13727	128.5526	'POST ROCK - SPEARVILLE 345KV CKT 1'
03ALL	0	14G	G10_014	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.04209	128.5526	'POST ROCK - SPEARVILLE 345KV CKT 1'
03ALL	0	14G	G10_009	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.10476	128.5526	'POST ROCK - SPEARVILLE 345KV CKT 1'
03ALL	0	14G	G08_047	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.04003	128.5526	'POST ROCK - SPEARVILLE 345KV CKT 1'
03ALL	0	14G	G08_098	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04078	106.3633	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'



GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED NAME	RATEB	TDF	TC % LOADING	CONTINGENCY NAME
03ALL	0	14G	G10_003	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04078	106.3633	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
03ALL	0	14G	G10_015	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.10796	106.8767	'POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1'
03ALL	0	14G	G10_014	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.0304	106.8767	'POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1'
03ALL	0	14G	G10_009	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.08294	106.8767	'POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1'
3	0	14G	G09_008	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03251	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G09_020	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03515	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04671	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.11199	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G08_088	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04671	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04486	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07755	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04792	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.11199	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.08512	102.3686	'NORTHWEST - TATONGA7 345.00 345KV CKT 1'
3	0	14G	G09_008	'TO->FROM'	'HAYS PLANT - SOUTH HAYS 115KV CKT 1'	99	0.14015	105.2245	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
3	0	14G	G09_020	'TO->FROM'	'HAYS PLANT - SOUTH HAYS 115KV CKT 1'	99	0.03287	105.2245	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
3	0	14G	G10_015	'TO->FROM'	'HAYS PLANT - SOUTH HAYS 115KV CKT 1'	99	0.03363	105.2245	'KNOLL 230 - POSTROCK6 230.00 230KV CKT 1'
3	0	14G	G08_022	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.03029	103.7605	'POST ROCK - SPEARVILLE 345KV CKT 1'
3	0	14G	G08_088	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.03379	103.7605	'POST ROCK - SPEARVILLE 345KV CKT 1'
3	0	14G	G10_015	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.13798	103.7605	'POST ROCK - SPEARVILLE 345KV CKT 1'
3	0	14G	G10_014	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.04279	103.7605	'POST ROCK - SPEARVILLE 345KV CKT 1'
3	0	14G	G10_009	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.10547	103.7605	'POST ROCK - SPEARVILLE 345KV CKT 1'
3	0	14G	G08_047	'TO->FROM'	'MULLERGREEN - SPEARVILLE 230KV CKT 1'	318.7	0.04073	103.7605	'POST ROCK - SPEARVILLE 345KV CKT 1'
3	0	14G	G08_098	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.0408	102.9677	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
3	0	14G	G10_003	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.0408	102.9677	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
3	0	14G	G09_008	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03302	102.064	'DBL-WICH-THI'
3	0	14G	G09_020	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.03523	102.064	'DBL-WICH-THI'
3	0	14G	G08_022	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04408	102.064	'DBL-WICH-THI'
3	0	14G	G10_011	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05599	102.064	'DBL-WICH-THI'
3	0	14G	G08_088	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.04347	102.064	'DBL-WICH-THI'
3	0	14G	G10_015	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05397	102.064	'DBL-WICH-THI'
3	0	14G	G10_014	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07159	102.064	'DBL-WICH-THI'
3	0	14G	G10_009	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05393	102.064	'DBL-WICH-THI'
3	0	14G	G08_044	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.05599	102.064	'DBL-WICH-THI'
3	0	14G	G08_047	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.07777	102.064	'DBL-WICH-THI'
3	0	14G	G09_020	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03169	156.8171	'DBL-WICH-THI'
3	0	14G	G08_022	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03086	156.8171	'DBL-WICH-THI'
3	0	14G	G08_088	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03342	156.8171	'DBL-WICH-THI'
3	0	14G	G10_015	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.05393	156.8171	'DBL-WICH-THI'
3	0	14G	G10_014	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04186	156.8171	'DBL-WICH-THI'
3	0	14G	G10_009	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04897	156.8171	'DBL-WICH-THI'
3	0	14G	G08_047	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04286	156.8171	'DBL-WICH-THI'
3	0	14G	G09_020	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03169	167.1412	'DBL-WICH-THI'
3	0	14G	G08_022	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03086	167.1412	'DBL-WICH-THI'
3	0	14G	G08_088	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03342	167.1412	'DBL-WICH-THI'
3	0	14G	G10_015	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.05393	167.1412	'DBL-WICH-THI'
3	0	14G	G10_014	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04186	167.1412	'DBL-WICH-THI'
3	0	14G	G10_009	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04897	167.1412	'DBL-WICH-THI'
3	0	14G	G08_047	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04286	167.1412	'DBL-WICH-THI'
04ALL	0	14G	G09_020	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03198	107.8281	'DBL-WICH-THI'
04ALL	0	14G	G08_022	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03114	107.8281	'DBL-WICH-THI'
04ALL	0	14G	G08_088	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.0337	107.8281	'DBL-WICH-THI'
04ALL	0	14G	G10_015	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.05422	107.8281	'DBL-WICH-THI'
04ALL	0	14G	G10_014	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04214	107.8281	'DBL-WICH-THI'
04ALL	0	14G	G10_009	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04926	107.8281	'DBL-WICH-THI'
04ALL	0	14G	G08_047	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04314	107.8281	'DBL-WICH-THI'
04ALL	0	14G	G09_020	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03198	118.3555	'DBL-WICH-THI'
04ALL	0	14G	G08_022	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03114	118.3555	'DBL-WICH-THI'
04ALL	0	14G	G08_088	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.0337	118.3555	'DBL-WICH-THI'
04ALL	0	14G	G10_015	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.05422	118.3555	'DBL-WICH-THI'
04ALL	0	14G	G10_014	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04214	118.3555	'DBL-WICH-THI'
04ALL	0	14G	G10_009	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04926	118.3555	'DBL-WICH-THI'
04ALL	0	14G	G08_047	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04314	118.3555	'DBL-WICH-THI'
04ALL	0	14G	G09_020	'FROM->TO'	'SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	330	0.08137	103.4845	'DBL-THIS-CLR'
04ALL	0	14G	G09_008	'FROM->TO'	'SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	330	0.17893	103.4845	'DBL-THIS-CLR'
04ALL	0	14G	G10_015	'FROM->TO'	'SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	330	0.1128	103.4845	'DBL-THIS-CLR'
04ALL	0	14G	G10_009	'FROM->TO'	'SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	330	0.09672	103.4845	'DBL-THIS-CLR'
04ALL	0	14G	G08_123N	'FROM->TO'	'SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	330	0.05166	103.4845	'DBL-THIS-CLR'
04ALL	0	14G	G09_020	'FROM->TO'	'SEWARD - ST JOHN 115KV CKT 1'	87.6	0.15225	100	'DBL-THIS-CLR'
04ALL	0	14G	G09_008	'FROM->TO'	'SEWARD - ST JOHN 115KV CKT 1'	87.6	0.05336	100	'DBL-THIS-CLR'
04ALL	0	14G	G10_015	'FROM->TO'	'SEWARD - ST JOHN 115KV CKT 1'	87.6	0.03754	100	'DBL-THIS-CLR'
04ALL	0	14G	G10_009	'FROM->TO'	'SEWARD - ST JOHN 115KV CKT 1'	87.6	0.03274	100	'DBL-THIS-CLR'
04ALL	0	14G	G09_020	'FROM->TO'	'SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	330	0.08137	103.4396	'DBL-IRON-CLR'
04ALL	0	14G	G09_008	'FROM->TO'	'SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	330	0.17893	103.4396	'DBL-IRON-CLR'
04ALL	0	14G	G10_015	'FROM->TO'	'SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	330	0.1128	103.4396	'DBL-IRON-CLR'
04ALL	0	14G	G10_009	'FROM->TO'	'SMOKYHL6 230.00 - SUMMIT 230KV CKT 1'	330	0.09672	103.4396	'DBL-IRON-CLR'

GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED NAME	RATEB	TDF	TC % LOADING	CONTINGENCY NAME
04ALL	0	14G	G08_123N	'FROM->TO'	'SMOKYHLE 230.00 - SUMMIT 230KV CKT 1'	330	0.05166	103.4396	'DBL-IRON-CLR'
05ALL	0	14G	G08_037	'FROM->TO'	'LAWEASOKLUNI'	425	0.09588	106.4	'BASE CASE'
05ALL	0	14G	G08_098	'FROM->TO'	'LAWEASOKLUNI'	425	0.03314	106.4	'BASE CASE'
05ALL	0	14G	G10_005	'FROM->TO'	'LAWEASOKLUNI'	425	0.03187	106.4	'BASE CASE'
05ALL	0	14G	G10_003	'FROM->TO'	'LAWEASOKLUNI'	425	0.03314	106.4	'BASE CASE'
05ALL	0	14G	G08_088	'FROM->TO'	'BUSHLAND INTERCHANGE - POTTER COUNTY INTERCHANGE 230KV CKT 1'	351	0.12005	100.6365	'BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1'
5	0	14G	G09_020	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.0319	105.882	'DBL-WICH-THI'
5	0	14G	G08_022	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03106	105.882	'DBL-WICH-THI'
5	0	14G	G10_015	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.05414	105.882	'DBL-WICH-THI'
5	0	14G	G10_014	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04207	105.882	'DBL-WICH-THI'
5	0	14G	G10_009	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04918	105.882	'DBL-WICH-THI'
5	0	14G	G08_088	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.03362	105.882	'DBL-WICH-THI'
5	0	14G	G08_047	'TO->FROM'	'CLEARWATER - MILAN TAP 138KV CKT 1'	110	0.04307	105.882	'DBL-WICH-THI'
5	0	14G	G09_020	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.0319	116.4901	'DBL-WICH-THI'
5	0	14G	G08_022	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03106	116.4901	'DBL-WICH-THI'
5	0	14G	G10_015	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.05414	116.4901	'DBL-WICH-THI'
5	0	14G	G10_014	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04207	116.4901	'DBL-WICH-THI'
5	0	14G	G10_009	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04918	116.4901	'DBL-WICH-THI'
5	0	14G	G08_088	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03362	116.4901	'DBL-WICH-THI'
5	0	14G	G08_047	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04307	116.4901	'DBL-WICH-THI'
06ALL	0	14G	G08_037	'FROM->TO'	'LAWEASOKLUNI'	425	0.09529	116.9	'BASE CASE'
06ALL	0	14G	G08_098	'FROM->TO'	'LAWEASOKLUNI'	425	0.03254	116.9	'BASE CASE'
06ALL	0	14G	G10_005	'FROM->TO'	'LAWEASOKLUNI'	425	0.03128	116.9	'BASE CASE'
06ALL	0	14G	G10_003	'FROM->TO'	'LAWEASOKLUNI'	425	0.03254	116.9	'BASE CASE'
07ALL	0	14G	G09_020	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03214	101.0801	'DBL-WICH-THI'
07ALL	0	14G	G08_022	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.0313	101.0801	'DBL-WICH-THI'
07ALL	0	14G	G08_088	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.03386	101.0801	'DBL-WICH-THI'
07ALL	0	14G	G10_015	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.05438	101.0801	'DBL-WICH-THI'
07ALL	0	14G	G10_014	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.0423	101.0801	'DBL-WICH-THI'
07ALL	0	14G	G10_009	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.04942	101.0801	'DBL-WICH-THI'
07ALL	0	14G	G08_047	'FROM->TO'	'HARPER - MILAN TAP 138KV CKT 1'	110	0.0433	101.0801	'DBL-WICH-THI'
08ALL	0	14G	G08_098	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04083	110.8465	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
08ALL	0	14G	G10_003	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04083	110.8465	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
8	0	14G	G08_098	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04084	106.438	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'
8	0	14G	G10_003	'FROM->TO'	'BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	72	0.04084	106.438	'ANDERSONCO 345.00 - LACYGNE 345KV CKT 1'

Appendix I:



**I. Power Flow Analysis (Category “C”)**

AVAILABLE ON REQUEST