

Impact Cluster Study for Generation Interconnection Requests

Southwest Power Pool
Engineering Department
Generation Interconnection Studies

(ICS-2008-001-5)
January 2013



SPP RESTRICTED

Executive Summary

Southwest Power Pool has conducted this Impact Re-Study for generation interconnection requests in the SPP Generation Interconnection Queue to account for the withdrawal of higher queued projects.

These interconnection requests have been clustered together for the following Impact Cluster Study. This Impact Cluster Study analyzes the interconnecting of multiple generation interconnection requests associated with new generation totaling 4,801.5 MW of new generation which would be located within the transmission systems of Mid-Kansas Electric Power LLC (MKEC), Oklahoma Gas and Electric (OKGE), Southwestern Public Service (SPS), Sunflower Electric Power Corporation (SUNC), Westar Energy (WERE) and/or Western Farmers Electric Cooperative (WFEC). The various generation interconnection requests have differing proposed in-service dates¹. The generation interconnection requests included in this Impact Cluster Study 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, 4,801.5 MW of nameplate generation may be interconnected with transmission system reinforcements within the SPP transmission system.

A limited dynamic stability analysis was performed for this restudy. The study models were adjusted to reflect the changes in higher queued interconnection requests and network upgrades associated with those requests. Dynamic Stability Analysis has determined that the transmission system will remain stable with the assigned Network Upgrades and Interconnection Facilities to the Impact Cluster Study Generation Interconnection Customers.

The need for reactive compensation in accordance with Order No. 661-A for wind farm interconnection requests and those requirements were determined in the previous Impact Study ICS-2008-001-1 and those results apply.

The total estimated minimum cost for interconnecting the studied interconnection requests is \$82,000,000. These costs are shown in Appendix E and Appendix F. This cost does not include additional network constraints in the SPP transmission system that were identified are shown in Appendix H.

The Finney-Holcomb 345kV circuit #2 is now a required upgrade for the Impact Cluster Study Customers.

Network Constraints listed in Appendix H are in the local area of the new generation when this generation is injected throughout the SPP footprint for the Energy Resource (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.

¹ The generation interconnection requests in-service dates will need to be deferred based on the required lead time for the Network Upgrades necessary. The Interconnection 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 Appendix E and F do not include all costs associated with the deliverability of the energy to final customers. These costs are determined by separate studies if the Customer submits a Transmission Service Request through SPP's Open Access Same Time Information System (OASIS) as required by Attachment Z1 of the SPP OATT.

Table of Contents

Introduction	5
Model Development	5
Identification of Network Constraints	8
Determination of Cost Allocated Network Upgrades	8
Interconnection Facilities	9
Powerflow	9
Stability Analysis	11
Conclusion	12
Appendix	13
A: Generation Interconnection Requests Considered for Impact Study.....	A-0
B: Prior Queued Interconnection Requests	B-0
C: Study Groupings.....	C-0
D: Proposed Point of Interconnection One line Diagrams	D-0
E: Cost Allocation per Interconnection Request	E-0
F: Cost Allocation per Proposed Network Upgrade.....	F-0
G: Power Flow ACCC Analysis (Constraints for Mitigation)	G-0
H: Power Flow ACCC Analysis (Other Constraints Not Requiring Mitigation)	H-0
I: Stability Analysis.....	I-0

Introduction

Generation Interconnection Requests in the Southwest Power Pool (SPP) Generation Interconnection Queue have been clustered together for the following Impact Cluster Study. This Impact Cluster Study analyzes multiple generation interconnection requests associated with new generation totaling 4,801.5 MW which would be located within the transmission systems of Missouri Public Service (MIPU), Mid-Kansas Electric Power LLC (MKEC), Oklahoma Gas and Electric (OKGE), Southwestern Public Service (SPS), Sunflower Electric Power Corporation (SUNC), Westar Energy (WERE) and/or Western Farmers Electric Cooperative (WFEC). The various generation interconnection requests have differing proposed in-service dates. The generation interconnection requests included in this Impact Cluster Study are listed in Appendix A by their queue number, amount, area, requested interconnection point, proposed interconnection point, and the requested in-service date.

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

Model Development

Interconnection Requests Included in the Cluster

SPP has included certain interconnection requests to be analyzed in this cluster study. The interconnection requests are listed in Appendix A.

Previous Queued Projects

The previous queued projects included in this study are listed in Appendix B. In addition to the Base Case Upgrades, the previous queued projects were assumed to be in-service and added to the Base Case models. These projects were dispatched as Energy Resources (ERIS) with equal distribution across the SPP footprint.

Development of Base Cases

Powerflow - The 2012 series Transmission Service Request (TSR) Models 2013 spring, 2013 summer and winter peak, and 2018 summer and winter peak, and 2023 summer peak scenario 0 peak cases were used for this study. Each of the control areas' resources were then re-dispatched using current dispatch orders.

Stability – The 2012 series SPP Model Development Working Group (MDWG) Models 2014 winter and 2014 summer were used for this study.

Base Case Upgrades

The following facilities are part of the SPP Transmission Expansion Plan or the Balanced Portfolio or Priority Projects. These facilities have been approved or are in construction stages and were assumed to be in-service at the time of dispatch and added to the base case models. The Impact Study Cluster Study Customers have not been assigned cost for the below listed projects. This list may not be all inclusive. The Impact Study Cluster Customers Generation Facilities in service dates may need to be delayed until the completion of the following upgrades. If for some reason, construction on these projects is discontinued, additional restudies will be needed to determine the interconnection needs of the Impact Study Cluster customers.

- Hitchland 230/115kV area projects²
 - Hitchland – Moore County 230kV, (placed in-service in 2012)
 - Hitchland – Ochitree 230kV Project, schedule for 2/1/2013 in-service
- Valliant – Hugo – Sunnyside 345kV, (placed in-service in 2012)³
- Rose Hill – Sooner 345kV, (placed in-service in 2012)⁴
- Balanced Portfolio Projects⁵:
 - Woodward – Border – TUCO 345kV project, scheduled for 5/19/2014 in-service
 - Woodward 345/138kV circuit #2 autotransformer
 - TUCO 345/138kV circuit #2 autotransformer
 - Reactors at Woodward and Border
 - Iatan– Nashua 345kV, scheduled for 6/1/2015 in-service
 - Nashua 345/161kV autotransformer
 - Muskogee– Seminole 345kV, scheduled for 12/31/2013 in-service
 - Spearville – Post Rock 345kV, (placed in service in 2012)
 - Post Rock 345/230kV autotransformer, (placed in-service in 2012)
 - Post Rock – Axtell 345kV (placed in-service in 2012)
 - Cleveland – Sooner 345kV, scheduled for 12/31/2012 in-service
 - Tap Stillwell – Swissvale 345kV line at West Gardner, scheduled for 12/31/2012 in-service
- Priority Projects⁶
 - Hitchland – Woodward double circuit 345kV, scheduled for 6/30/2014 in-service
 - Hitchland 345/230kV circuit #2 autotransformer
 - Woodward – Thistle double circuit 345kV, scheduled for 12/31/2014 in-service
 - Spearville – Clark double circuit 345kV, scheduled for 12/31/2014 in-service
 - Clark – Thistle double circuit 345kV, scheduled for 12/31/2014 in-service
 - Thistle – Wichita double circuit 345kV, scheduled for 12/31/2014 in-service
 - Thistle 345/138kV autotransformer, scheduled for 12/31/2014 in-service
 - Thistle – Flat Ridge 138kV, scheduled for 12/31/2014 in-service

² Approved 230kV upgrades are based on SPP 2007 STEP. Upgrades may need to be re-evaluated in the system impact study.

³ SPP Transmission Service Projects identified in SPP-2006-AG3-AFS-11.

⁴ SPP Regional Reliability Project. Approved based on an order of the Kansas Corporation Commission issued in Docket no. 07-WSEE-715-MIS.

⁵ Notice to Construct (NTC) issued June 2009

⁶ Notice to Construct issued June, 2010

Contingent Upgrades

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

- None

Potential Upgrades Not in the Base Case

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

Regional Groupings

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

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

Power flow - For each group, the various wind generating plants were modeled at 80% nameplate of maximum generation. The wind generating plants in the other areas were modeled at 20% nameplate of maximum generation. This process created eight different scenarios with each group being studied at 80% nameplate rating. These projects were dispatched as Energy Resources with equal distribution across the SPP footprint. This method allowed for the identification of network constraints that were common to the regional groupings that could then in turn have the mitigating upgrade cost allocated throughout the entire cluster. The generation was also modeled at 100% nameplate for certain analysis to determine constraints at the point of interconnection.

Peaking units were not dispatched in the 2013 spring model. To study peaking units' impacts, the 2013 summer and winter, and 2018 summer and winter peak models was chosen and peaking units were modeled at 100% of the nameplate rating and wind generating facilities were modeled at 10% of the nameplate rating.

Stability - For each group, all interconnection requests (wind and non-wind) were modeled at 100% nameplate of maximum generation in both winter and summer seasonal models. The wind generation interconnection requests in the other areas were modeled at 20% nameplate of maximum generation while fossil units were modeled at 100% in the other areas. This process created eight different scenarios with each group being studied at 100% nameplate rating. These projects were dispatched as Energy Resources with equal distribution across the SPP footprint.

Identification of Network Constraints

The initial set of network constraints were found by using PTI MUST First Contingency Incremental Transfer Capability (FCITC) analysis on the entire cluster grouping dispatched at the various levels mentioned above. An additional FCITC analysis was conducted for each interconnection request individually at 100% nameplate. These constraints were then screened to determine if any of the generation interconnection requests had at least a 20% Distribution Factor (DF) upon the constraint. Constraints that measured at least a 20% DF from at least one interconnection request were considered for mitigation.

Determination of Cost Allocated Network Upgrades

Cost Allocated Network Upgrades of wind generation interconnection requests were determined using the 2013 spring model. Cost Allocated Network Upgrades of peaking units was determined using the 2018 summer peak model. Once a determination of the required Network Upgrades was made, a power flow model of the 2013 spring case was developed with all cost allocated Network Upgrades in-service. A MUST FCITC analysis was performed to determine the Power Transfer Distribution Factors (PTDF), defined as a distribution factor with system intact conditions that each generation interconnection request had on each new upgrade. The impact each generation interconnection request had on each upgrade project was weighted by the size of each request. Finally the costs due by each request for a particular project were then determined by allocating the portion of each request's impact over the impact of all affecting requests.

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

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

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

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

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

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

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

- Repeat previous for each responsible GI request for each Project

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

Credits for Amounts Advanced for Network Upgrades

Interconnection Customer shall be entitled to credits in accordance with Attachment Z1 of the SPP Tariff for any Network Upgrades including any tax gross-up or any other tax-related payments associated with the Network Upgrades, and not refunded to the Interconnection Customer.

Interconnection Facilities

The requirement to interconnect the 4,801.5 MW of generation into the existing and proposed transmission systems in the affected areas of the SPP transmission footprint consist of the necessary cost allocated shared facilities listed in Appendix F. Interconnection Facilities specific to each generation interconnection request are listed in Appendix E. Appendix F lists the costs by upgrade. The total for interconnection facilities owned by transmission owners and network upgrades is approximately \$82,000,000.

A list of constraints that were identified and used for mitigation are listed in Appendix G. Listed within Appendix G are the ERIS constraints with greater than or equal to a 20% DF, Other Network Constraints with are not requiring mitigation are shown in Appendix H. With a defined source and sink in a TSR, this list of Network Constraints will be refined and expanded to account for all Network Upgrade requirements.

Powerflow

Powerflow Analysis Methodology

The Southwest Power Pool (SPP) Criteria states that:

“The transmission system of the SPP region shall be planned and constructed so that the contingencies as set forth in the Criteria will meet the applicable NERC Reliability Standards for transmission planning. All MDWG power flow models shall be tested to verify compliance with the System Performance Standards from NERC Table 1 – Category A.”

The ACCC function of PSS/E was used to simulate single contingencies in portions or all of the modeled control areas of AEPW, EMDE, GRDA, KCPL, MIDW, MIPU, OKGE, SPS, SUNC, WERE, WFEC and other control areas were applied and the resulting scenarios analyzed. This satisfies the “more probable” contingency testing criteria mandated by NERC and the SPP criteria.

Powerflow Analysis

A power flow analysis was conducted for each Interconnection Customer’s facility using modified versions of the 2013 spring peak, 2013 summer and winter peak, the 2018 summer and winter peak models, and the 2023 summer peak. The output of the Interconnection Customer’s facility was offset in each model by a reduction in output of existing online SPP generation. This method allows the request to be studied as an Energy Resource (ERIS) Interconnection Request. The available seasonal models used were through the 2023 Summer Peak.

This analysis was conducted assuming that previous queued requests in the immediate area of these interconnect requests were in-service. The analysis of the each Customer’s project indicates that additional criteria violations will occur on the AEPW, OKGE, SPS, AND WFEC transmission systems under steady state and contingency conditions in the peak seasons.

Cluster Group 1 (Woodward Area)

The Woodward area contained 2,037.0 MW of new interconnection requests in addition to the 486.8 MW of prior queued interconnection requests. No additional constraints were identified with the Base Case Upgrades in service.

Cluster Group 2 (Hitchland Area)

The Hitchland area contained 234.0 MW of interconnection request in addition to the 983.9 MW of previous queued generation interconnection requests. Analysis has indicated that Finney-Holcomb 345kV circuit #2 is required for GEN-2008-018. No additional constraints were identified with the Base Case Upgrades in service.

Cluster Group 3 (Spearville Area)

The Spearville area contained 810.5 MW of interconnection requests and 1,020.5 MW of previous queued interconnection requests. Analysis has indicated that Finney-Holcomb 345kV circuit #2 is required for GEN-2008-018. Voltage collapse was observed for GEN-2008-018 for loss of the Finney-Holcomb 345kV circuit in high wind conditions and with a Lamar import. To mitigate this voltage collapse, a 2nd 345kV circuit from Finney-Hitchland will be required. No additional constraints were identified with the Base Case Upgrades in service.

MONITORED ELEMENT	RATEB (MVA)	TC%LOADING (%MVA)	CONTINGENCY
Non-Converged Contingency	1052		Finney – Holcomb 345kV ckt #1

Cluster Group 4 (NW Kansas Group)

The NW Kansas area contained 300.0 MW in addition to the 1,067.0 MW of previously queued generation in the area. No additional constraints were identified with the Base Case Upgrades in service.

Cluster Group 5 (Amarillo Area)

The Amarillo area contained 400.0 MW of interconnection requests in addition to the 800.0 MW of previously queued interconnection requests in this area. Amarillo - Swisher 230kV CKT 1 Rerate replace line traps is assigned to GEN-2007-048.

MONITORED ELEMENT	RATEB (MVA)	TC%LOADING (%MVA)	CONTINGENCY
AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	111.396	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1
G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	113.4529	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1

Cluster Group 6 (South Panhandle/New Mexico)

The South Panhandle/new Mexico area contained 120.0 MW of interconnection requests in addition to the 1,084.0 MW of previously queued interconnection requests.

Cluster Group 7 (Southwestern Oklahoma)

The Southwestern Oklahoma area contained 300.0 MW of interconnection requests in addition to the 1,017.2 MW of previous queued generation in the area. No constraints were found in this area with the exception of some local issues. An incorrect rating at Clinton Jct. indicated an overload on a 138kV transmission line. However, the rating was verified to be 170MVA which is enough to accommodate the generation.

MONITORED ELEMENT	RATEB (MVA)	TC%LOADING (%MVA)	CONTINGENCY
CLINTON - G07-32T 138.00 138KV CKT 1	143	106.6364	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1

Cluster Group 8 (South Central Kansas)

The South Central Kansas area contained 600.0 MW of interconnection requests in addition to the 593.0 MW of previous queued generation in the area. No constraints were found in this area with the exception of some local issues.

Stability Analysis

A limited stability analysis was conducted for each Interconnection Customer's facility using modified versions of the 2014 winter peak and the 2014 summer peak. The stability analysis was conducted with all upgrades in service that were identified in the power flow analysis. For each group, the interconnection requests were studied at 100% nameplate output while the other groups were dispatched at 20% output for wind requests and 100% output for fossil requests. The output of the Interconnection Customer's facility was offset in each model by a reduction in output of existing online SPP generation. The following synopsis is included for each group.

The results of the stability study conclude that the transmission system will remain stable with the network upgrades required for the interconnection requests. The previously required Finney-Holcomb 345kV circuit #2 is now required for the Impact Cluster Study.

Conclusion

The minimum cost of interconnecting all of the interconnection requests included in this Impact Cluster Study is estimated at \$82,000,000 for the Allocated Network Upgrades and Transmission Owner Interconnection Facilities are listed in Appendix E and F. These costs do not include the cost of upgrades of other transmission facilities listed in Appendix I which are Network Constraints.

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

Appendix

A: Generation Interconnection Requests Considered for Impact Study

See next page.

A: Generation Interconnection Requests Considered for Impact Study

Request	Amount	Service	Area	Requested Point of Interconnection	Proposed Point of Interconnection	Requested In-Service Date
GEN-2006-006	205.5	ER	SUNCMKEC	Spearville 345kV	Spearville 345kV	12/1/2008
GEN-2007-021	201.0	ER	OKGE	Dewey 138kV	Tatonga 345kV	8/1/2009
GEN-2007-025	300.0	ER	WERE	Viola 345kV	Viola 345kV	10/1/2009
GEN-2007-032	150.0	ER	WFEC	Tap Clinton Junction - Clinton 138kV	Tap Clinton Junction - Clinton 138kV	12/31/2010
GEN-2007-038	200.0	ER	SUNCMKEC	Spearville 345kV	Spearville 345kV	12/31/2012
GEN-2007-043	200.0	ER	OKGE	Minco 345kV	Minco 345kV	12/1/2009
GEN-2007-044	300.0	ER	OKGE	Roman Nose 138kV	Tatonga 345kV	12/1/2009
GEN-2007-046	199.5	ER	SPS	Texas County - Hitchland 115kV	Hitchland 115kV	12/31/2011
GEN-2007-048	400.0	ER	SPS	Tap Amarillo S - Swisher 230kV	Tap Amarillo S - Swisher 230kV	11/1/2009
GEN-2007-050	170.0	ER	OKGE	Woodward EHV 138kV	Woodward EHV 138kV	10/1/2009
GEN-2007-052	150.0	ER	WFEC	Anadarko 138kV	Anadarko 138kV	5/1/2009
GEN-2007-057	34.5	ER	SPS	Valero 115kV	Moore County East 115kV	5/1/2009
GEN-2007-062	765.0	ER	OKGE	Woodward EHV 345kV	Woodward EHV 345kV	12/31/2011
GEN-2008-003	101.0	ER	OKGE	Woodward EHV 138kV	Woodward EHV 138kV	8/31/2009
GEN-2008-008	60.0	ER	SPS	Graham 69kV	Graham 69kV	12/31/2010
GEN-2008-009	60.0	ER	SPS	San Juan Tap 230kV	San Juan Tap 230kV	3/1/2012
GEN-2008-013	300.0	ER	OKGE	Tap Wichita - Woodring (Hunter) 345kV	Tap Wichita - Woodring (Hunter) 345kV	10/1/2010
GEN-2008-017	300.0	ER	SUNCMKEC	Setab 345kV	Setab 345kV	3/1/2012
GEN-2008-018	405.0	ER	SPS	Holcomb - Spearville 345kV	Finney 345kV	12/31/2012
GEN-2008-019	300.0	ER	OKGE	Dewey 345kV	Tatonga 345kV	12/31/2012
TOTAL						4,801.5

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

B: Prior Queued Interconnection Requests

See next page.

B: Prior Queued Interconnection Requests

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
ASGI-2010-006	150	AECI	Tap Fairfax (AECI) - Shilder (AEPW) 138kV	AECI queue Affected Study
GEN-2001-014	96	WFEC	Ft Supply 138kV	On-Line
GEN-2001-026	74	WFEC	Washita 138kV	On-Line
GEN-2001-033	180	SPS	San Juan Tap 230kV	On-Line
GEN-2001-036	80	SPS	Norton 115kV	On-Line
GEN-2001-037	102	OKGE	FPL Moreland Tap 138kV	On-Line
GEN-2001-039A	105	SUNCMKEC	Tap Greensburg - Ft Dodge (Shooting Star Tap) 115kV	On Schedule for 2012
GEN-2001-039M	99	SUNCMKEC	Central Plains Tap 115kV	On-Line
GEN-2002-004	200	WERE	Latham 345kV	On-Line at 150MW
GEN-2002-005	120	WFEC	Red Hills Tap 138kV	On-Line
GEN-2002-008	240	SPS	Hitchland 345kV	On-Line at 120MW
GEN-2002-009	80	SPS	Hansford 115kV	On-Line
GEN-2002-022	240	SPS	Bushland 230kV	On-Line
GEN-2002-023N	0.8	NPPD	Harmony 115kV	On-Line
GEN-2002-025A	150	SUNCMKEC	Spearville 230kV	On-Line
GEN-2003-004 GEN-2004-023 GEN-2005-003	151.2	WFEC	Washita 138kV	On-Line
GEN-2003-005	100	WFEC	Anadarko - Paradise (Blue Canyon) 138kV	On-Line
GEN-2003-006A	200	SUNCMKEC	Elm Creek 230kV	On-Line
GEN-2003-019	250	MIDW	Smoky Hills Tap 230kV	On-Line
GEN-2003-020	160	SPS	Martin 115kV	On-Line at 80MW
GEN-2003-021N	75	NPPD	Ainsworth Wind Tap 115kV	On-Line
GEN-2003-022	120	AEPW	Washita 138kV	On-Line
GEN-2004-005N	30	NPPD	St Francis 115kV	On Suspension
GEN-2004-014	154.5	SUNCMKEC	Spearville 230kV	On Schedule for 2012
GEN-2004-020	27	AEPW	Washita 34.5kV	On-Line
GEN-2004-023N	75	NPPD	Columbus Co 115kV	On-Line
GEN-2005-005	18	OKGE	FPL Moreland Tap 138kV	IA Pending
GEN-2005-008	120	OKGE	Woodward 138kV	On-Line
GEN-2005-012	250	SUNCMKEC	Spearville 345kV	On Schedule for 2012
GEN-2005-013	201	WERE	Tap Latham - Neosho (Caney River) 345kV	On-Line
GEN-2006-002	101	AEPW	Sweetwater 230kV	On-Line
GEN-2006-014	300	MIPU	Tap Maryville - Midway (Nodway Co) 161kV	On Suspension
GEN-2006-018	170	SPS	TUCO Interchange 230kV	On-Line
GEN-2006-020N	42	NPPD	Bloomfield 115kV	On-Line
GEN-2006-020S	18.9	SPS	DWS Frisco 115kV	On Schedule for 3/2012
GEN-2006-021	101	SUNCMKEC	Flat Ridge Tap 138kV	On-Line
GEN-2006-022	150	SUNCMKEC	Ninnescah 115kV	On Suspension
GEN-2006-024S	19.8	WFEC	Buffalo Bear Tap 69kV	On-Line
GEN-2006-026	604	SPS	Hobbs 230kV & Hobbs 115kV	On-Line
GEN-2006-031	75	MIDW	Knoll 115kV	On-Line
GEN-2006-032	200	MIDW	South Hays 230kV	On Suspension
GEN-2006-035	225	AEPW	Sweetwater 230kV	On-Line at 132MW
GEN-2006-038N005	80	NPPD	Broken Bow 115kV	On-Line
GEN-2006-038N019	80	NPPD	Petersburg North 115kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2006-040	108	SUNCMKEC	Mingo 115kV	On Suspension
GEN-2006-043	99	AEPW	Sweetwater 230kV	On-Line
GEN-2006-044	370	SPS	Hitchland 345kV	On Schedule for 2012
GEN-2006-045	240	SPS	Tap Potter - Plant X 230kV (South Randle County) 230kV	On Suspension
GEN-2006-046	131	OKGE	Dewey 138kV	On-Line
GEN-2006-047	240	SPS	Tap Bushland - Deaf Smith (Buffalo) 230kV	On Suspension
GEN-2007-011	135	SUNCMKEC	Syracuse 115kV	On Suspension
GEN-2007-011N08	81	NPPD	Bloomfield 115kV	On-Line
GEN-2007-015	135	WERE	Tap Kelly(WERE) - S1399(OPPD) 161kV	On Schedule 2014
GEN-2008-021	42.0	WERE	Wolf Creek 345kV	On-Line
GEN-2008-1190	60	OPPD	S1399 161kV	On-Line
Gray County Wind (Montezuma)	110	SUNCMKEC	Gray County Tap 115kV	On-Line
Llano Estacado (White Deer)	80	SPS	Llano Wind 115kV	On-Line
NPPD Distributed (Broken Bow)	8.3	NPPD	Broken Bow 115kV	On-Line
NPPD Distributed (Burwell)	3	NPPD	Ord 115kV	On-Line
NPPD Distributed (Columbus Hydro)	45	NPPD	Columbus 115kV	On-Line
NPPD Distributed (North Platte - Lexington)	54	NPPD	Multiple: Jeffrey 115kV, John_1 115kV, John_2 115kV	On-Line
NPPD Distributed (Ord)	10.8	NPPD	Ord 115kV	On-Line
NPPD Distributed (Stuart)	2.1	NPPD	Ainsworth 115kV	On-Line
SPS Distributed (Dumas 19th St)	20	SPS	Dumas 19th Street 115kV	On-Line
SPS Distributed (Etter)	20	SPS	Etter 115kV	On-Line
SPS Distributed (Hopi)	10	SPS	Hopi 115kV	On-Line
SPS Distributed (Jal)	10	SPS	S Jal 115kV	On-Line
SPS Distributed (Lea Road)	10	SPS	Lea Road 115kV	On-Line
SPS Distributed (Monument)	10	SPS	Monument 115kV	On-Line
SPS Distributed (Moore E)	25	SPS	Moore East 115kV	On-Line
SPS Distributed (Ocotillo)	10	SPS	Ocotillo 115kV	On-Line
SPS Distributed (Sherman)	20	SPS	Sherman 115kV	On-Line
SPS Distributed (Spearman)	10	SPS	Spearman 69kV	On-Line
SPS Distributed (TC-Texas County)	20	SPS	Texas County 115kV	On-Line
TOTAL		8,134.4		

C: Study Groupings

See next page

C. Study Groups

GROUP 1: WOODWARD AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-014	96.0	WFEC	Ft Supply 138kV
GEN-2001-037	102.0	OKGE	FPL Moreland Tap 138kV
GEN-2005-005	18.0	OKGE	FPL Moreland Tap 138kV
GEN-2005-008	120.0	OKGE	Woodward 138kV
GEN-2006-024S	19.8	WFEC	Buffalo Bear Tap 69kV
GEN-2006-046	131.0	OKGE	Dewey 138kV
PRIOR QUEUED SUBTOTAL	486.8		
GEN-2007-021	201.0	OKGE	Tatonga 345kV
GEN-2007-043	200.0	OKGE	Minco 345kV
GEN-2007-044	300.0	OKGE	Tatonga 345kV
GEN-2007-050	170.0	OKGE	Woodward EHV 138kV
GEN-2007-062	765.0	OKGE	Woodward EHV 345kV
GEN-2008-003	101.0	OKGE	Woodward EHV 138kV
GEN-2008-019	300.0	OKGE	Tatonga 345kV
CURRENT CLUSTER SUBTOTAL	2,037.0		
AREA TOTAL	2,523.8		

GROUP 2: HITCHLAND AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2002-008	240.0	SPS	Hitchland 345kV
GEN-2002-009	80.0	SPS	Hansford 115kV
GEN-2003-020	160.0	SPS	Martin 115kV
GEN-2006-020S	18.9	SPS	DWS Frisco 115kV
GEN-2006-044	370.0	SPS	Hitchland 345kV
SPS Distributed (Dumas 19th St)	20.0	SPS	Dumas 19th Street 115kV
SPS Distributed (Etter)	20.0	SPS	Etter 115kV
SPS Distributed (Moore E)	25.0	SPS	Moore East 115kV
SPS Distributed (Sherman)	20.0	SPS	Sherman 115kV
SPS Distributed (Spearman)	10.0	SPS	Spearman 69kV
SPS Distributed (TC-Texas County)	20.0	SPS	Texas County 115kV
PRIOR QUEUED SUBTOTAL	983.9		
GEN-2007-046	199.5	SPS	Hitchland 115kV
GEN-2007-057	34.5	SPS	Moore County East 115kV
CURRENT CLUSTER SUBTOTAL	234.0		
AREA TOTAL	1,217.9		

GROUP 3: SPEARVILLE AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-039A	105.0	SUNCMKEC	Tap Greensburg - Ft Dodge (Shooting Star Tap) 115kV
GEN-2002-025A	150.0	SUNCMKEC	Spearville 230kV
GEN-2004-014	154.5	SUNCMKEC	Spearville 230kV
GEN-2005-012	250.0	SUNCMKEC	Spearville 345kV
GEN-2006-021	101.0	SUNCMKEC	Flat Ridge Tap 138kV
GEN-2006-022	150.0	SUNCMKEC	Ninnescah 115kV
Gray County Wind (Montezuma)	110.0	SUNCMKEC	Gray County Tap 115kV
PRIOR QUEUED SUBTOTAL	1,020.5		
GEN-2006-006	205.5	SUNCMKEC	Spearville 345kV
GEN-2007-038	200.0	SUNCMKEC	Spearville 345kV
GEN-2008-018	405.0	SPS	Finney 345kV
CURRENT CLUSTER SUBTOTAL	810.5		
AREA TOTAL	1,831.0		

GROUP 4: NW KANSAS AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-039M	99.0	SUNCMKEC	Central Plains Tap 115kV
GEN-2003-006A	200.0	SUNCMKEC	Elm Creek 230kV
GEN-2003-019	250.0	MIDW	Smoky Hills Tap 230kV
GEN-2006-031	75.0	MIDW	Knoll 115kV
GEN-2006-032	200.0	MIDW	South Hays 230kV
GEN-2006-040	108.0	SUNCMKEC	Mingo 115kV
GEN-2007-011	135.0	SUNCMKEC	Syracuse 115kV
PRIOR QUEUED SUBTOTAL	1,067.0		
GEN-2008-017	300.0	SUNCMKEC	Setab 345kV
CURRENT CLUSTER SUBTOTAL	300.0		
AREA TOTAL	1,367.0		

GROUP 5: AMARILLO AREA

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2002-022	240.0	SPS	Bushland 230kV
GEN-2006-045	240.0	SPS	Tap Potter - Plant X 230kV (South Randle County) 230kV
GEN-2006-047	240.0	SPS	Tap Bushland - Deaf Smith (Buffalo) 230kV
Llano Estacado (White Deer)	80.0	SPS	Llano Wind 115kV
PRIOR QUEUED SUBTOTAL	800.0		
GEN-2007-048	400.0	SPS	Tap Amarillo S - Swisher 230kV
CURRENT CLUSTER SUBTOTAL	400.0		
AREA TOTAL	1,200.0		

GROUP 6: S-TX PANHANDLE/NW AREA

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-033	180.0	SPS	San Juan Tap 230kV
GEN-2001-036	80.0	SPS	Norton 115kV
GEN-2006-018	170.0	SPS	TUCO Interchange 230kV
GEN-2006-026	604.0	SPS	Hobbs 230kV & Hobbs 115kV
SPS Distributed (Hopi)	10.0	SPS	Hopi 115kV
SPS Distributed (Jal)	10.0	SPS	S Jal 115kV
SPS Distributed (Lea Road)	10.0	SPS	Lea Road 115kV
SPS Distributed (Monument)	10.0	SPS	Monument 115kV
SPS Distributed (Ocotillo)	10.0	SPS	Ocotillo 115kV
PRIOR QUEUED SUBTOTAL	1,084.0		
GEN-2008-008	60.0	SPS	Graham 69kV
GEN-2008-009	60.0	SPS	San Juan Tap 230kV
CURRENT CLUSTER SUBTOTAL	120.0		
AREA TOTAL	1,204.0		

GROUP 7: SW OKLAHOMA AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-026	74.0	WFEC	Washita 138kV
GEN-2002-005	120.0	WFEC	Red Hills Tap 138kV
GEN-2003-004 GEN-2004-023 GEN-2005-003	151.2	WFEC	Washita 138kV
GEN-2003-005	100.0	WFEC	Anadarko - Paradise (Blue Canyon) 138kV
GEN-2003-022	120.0	AEPW	Washita 138kV
GEN-2004-020	27.0	AEPW	Washita 34.5kV
GEN-2006-002	101.0	AEPW	Sweetwater 230kV
GEN-2006-035	225.0	AEPW	Sweetwater 230kV
GEN-2006-043	99.0	AEPW	Sweetwater 230kV
PRIOR QUEUED SUBTOTAL	1,017.2		
GEN-2007-032	150.0	WFEC	Tap Clinton Junction - Clinton 138kV
GEN-2007-052	150.0	WFEC	Anadarko 138kV
CURRENT CLUSTER SUBTOTAL	300.0		
AREA TOTAL	1,317.2		

GROUP 8: N-OK/S-KS AREA			
Request	Capacity	Area	Proposed Point of Interconnection
ASGI-2010-006	150.0	AECI	Tap Fairfax (AECI) - Shilder (AEPW) 138kV
GEN-2002-004	200.0	WERE	Latham 345kV
GEN-2005-013	201.0	WERE	Tap Latham - Neosho (Caney River) 345kV
GEN-2008-021	42.0	WERE	Wolf Creek 345kV
PRIOR QUEUED SUBTOTAL	593.0		
GEN-2007-025	300.0	WERE	Viola 345kV
GEN-2008-013	300.0	OKGE	Tap Wichita - Woodring (Hunter) 345kV
CURRENT CLUSTER SUBTOTAL	600.0		
AREA TOTAL	1,193.0		

GROUP 9/10: NEBRASKA AREA			
Request	Capacity	Area	Proposed Point of Interconnection
GEN-2002-023N	0.8	NPPD	Harmony 115kV
GEN-2003-021N	75.0	NPPD	Ainsworth Wind Tap 115kV
GEN-2004-005N	30.0	NPPD	St Francis 115kV
GEN-2004-023N	75.0	NPPD	Columbus Co 115kV
GEN-2006-020N	42.0	NPPD	Bloomfield 115kV
GEN-2006-038N005	80.0	NPPD	Broken Bow 115kV
GEN-2006-038N019	80.0	NPPD	Petersburg North 115kV
GEN-2007-011N08	81.0	NPPD	Bloomfield 115kV
GEN-2007-015	135.0	WERE	Tap Kelly(WERE) - S1399(OPPD) 161kV
GEN-2008-1190	60.0	OPPD	S1399 161kV
NPPD Distributed (Broken Bow)	8.3	NPPD	Broken Bow 115kV
NPPD Distributed (Burwell)	3.0	NPPD	Ord 115kV
NPPD Distributed (Columbus Hydro)	45.0	NPPD	Columbus 115kV
NPPD Distributed (North Platte - Lexington)	54.0	NPPD	Multiple: Jeffrey 115kV, John_1 115kV, John_2 115kV
NPPD Distributed (Ord)	10.8	NPPD	Ord 115kV
NPPD Distributed (Stuart)	2.1	NPPD	Ainsworth 115kV
PRIOR QUEUED SUBTOTAL	782.0		
AREA TOTAL	782.0		

GROUP 12: NW AR AREA

Request	Capacity	Area	Proposed Point of Interconnection
AREA TOTAL	0.0		

GROUP 13: NW MISSOURI AREA

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2006-014	300.0	MIPU	Tap Maryville - Midway (Nodway Co) 161kV
PRIOR QUEUED SUBTOTAL	300.0		
AREA TOTAL	300.0		

GROUP 14: S OKLAHOMA AREA

Request	Capacity	Area	Proposed Point of Interconnection
AREA TOTAL	0.0		

CLUSTER TOTAL (CURRENT STUDY)	4,801.5	MW
PQ TOTAL (PRIOR QUEUED)	8,134.4	MW
CLUSTER TOTAL (INCLUDING PRIOR QUEUED)	12,935.9	MW

D: Proposed Point of Interconnection One line Diagrams

SEE FACILITY STUDIES POSTED SEPARATELY FOR EACH INDIVIDUAL REQUEST POSTED

E: Cost Allocation per Interconnection Request

If interconnection request is dependent upon a Priority Project or Balanced Portfolio upgrade, those upgrades/projects are listed in the interconnection requirements as Priority Project or Balanced Portfolio.

Appendix E. - Cost Allocation Per Request

(Including Previously Allocated Network Upgrades*)

Interconnection Request	Upgrade Type	Allocated Costs	E + C Costs
GEN-2006-006			
GEN-2006-006 Interconnection Cost		\$5,516,397.00	\$5,516,397.00
See Oonline Diagram			
Spearville - Comanche - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Spearville - Knoll - Axtell 345kV	Balanced Portfolio		
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
	Current Study Total	\$5,516,397.00	
GEN-2007-021			
GEN-2007-021 Interconnection Cost		\$3,073,000.00	\$3,073,000.00
See Oonline Diagram			
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
	Current Study Total	\$3,073,000.00	
GEN-2007-025			
GEN-2007-025 Interconnection Cost		\$10,732,000.00	\$10,732,000.00
	Current Study Total	\$10,732,000.00	
GEN-2007-032			
GEN-2007-032 Interconnection Cost		\$2,350,000.00	\$2,350,000.00
See Oonline Diagram			
	Current Study Total	\$2,350,000.00	
GEN-2007-038			
GEN-2007-038 Interconnection Cost		\$3,663,731.00	\$3,663,731.00
See Oonline Diagram			
Spearville - Comanche - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Spearville - Knoll - Axtell 345kV	Balanced Portfolio		
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		

* Current Study Requests' Costs of Previously Allocated Network Upgrades will be determined by a restudy, if necessary.

Interconnection Request**Upgrade Type****Allocated Costs****E + C Costs**

Medicine Lodge - Wichita Dbl Ckt 345kV

Priority Project

Current Study Total **\$3,663,731.00****GEN-2007-043**

GEN-2007-043 Interconnection Cost

\$8,732,000.00

\$8,732,000.00

See Online Diagram

Current Study Total **\$8,732,000.00****GEN-2007-044**

GEN-2007-044 Interconnection Cost

\$3,073,000.00

\$3,073,000.00

See Online Diagram

Woodward - Medicine Lodge Dbl Ckt 345kV

Priority Project

Medicine Lodge - Wichita Dbl Ckt 345kV

Priority Project

Current Study Total **\$3,073,000.00****GEN-2007-046**

GEN-2007-046 Interconnection Cost

\$545,411.00

\$545,411.00

See Online Diagram

FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 2

\$1,519,518.72

\$12,000,000.00

new transmission

Hitchland-Woodward Dbl Ckt 345kV

Priority Project

Woodward - Medicine Lodge Dbl Ckt 345kV

Priority Project

Medicine Lodge - Wichita Dbl Ckt 345kV

Priority Project

Tuco - Woodward 345kV

Balanced Portfolio

Current Study Total **\$2,064,929.72****GEN-2007-048**

GEN-2007-048 Interconnection Cost

\$3,558,890.00

\$3,558,890.00

See Online Diagram

Amarillo - Swisher Line Traps

\$77,464.00

\$77,464.00

Hitchland-Woodward Dbl Ckt 345kV

Priority Project

Tuco - Woodward 345kV

Balanced Portfolio

Woodward - Medicine Lodge Dbl Ckt 345kV

Priority Project

Current Study Total **\$3,636,354.00****GEN-2007-051**

* Current Study Requests' Costs of Previously Allocated Network Upgrades will be determined by a restudy, if necessary.

Interconnection Request	Upgrade Type	Allocated Costs	E + C Costs
GEN-2007-051 Interconnection Cost		\$2,500,000.00	\$2,500,000.00
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
	Current Study Total	\$2,500,000.00	
GEN-2007-052			
GEN-2007-052 Interconnection Cost		\$900,000.00	\$900,000.00
	Current Study Total	\$900,000.00	
GEN-2007-057			
GEN-2007-057 Interconnection Cost		\$450,797.00	\$450,797.00
See Online Diagram			
FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 2 new transmission		\$238,544.69	\$12,000,000.00
Hitchland-Woodward Dbl Ckt 345kV	Priority Project		
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
Tuco - Woodward 345kV	Balanced Portfolio		
	Current Study Total	\$689,341.69	
GEN-2007-062			
GEN-2007-062 Interconnection Cost		\$3,807,000.00	\$3,807,000.00
See Online Diagram			
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
	Current Study Total	\$3,807,000.00	
GEN-2008-003			
GEN-2008-003 Interconnection Cost		\$1,070,000.00	\$1,070,000.00
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
	Current Study Total	\$1,070,000.00	
GEN-2008-008			

* Current Study Requests' Costs of Previously Allocated Network Upgrades will be determined by a restudy, if necessary.

Interconnection Request	Upgrade Type	Allocated Costs	E + C Costs
GEN-2008-008 Interconnection Cost See Online Diagram		\$622,212.00	\$622,212.00
Tuco - Woodward 345kV	Balanced Portfolio		
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
Hitchland-Woodward Dbl Ckt 345kV	Priority Project		
	Current Study Total	\$622,212.00	
GEN-2008-013			
GEN-2008-013 Interconnection Cost See Online Diagram		\$9,277,000.00	\$9,277,000.00
	Current Study Total	\$9,277,000.00	
GEN-2008-017			
GEN-2008-017 Interconnection Cost See Online Diagram		\$4,450,000.00	\$4,450,000.00
Spearville - Comanche - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
Hitchland-Woodward Dbl Ckt 345kV	Priority Project		
Spearville - Knoll - Axtell 345kV	Balanced Portfolio		
	Current Study Total	\$4,450,000.00	
GEN-2008-018			
GEN-2008-018 Interconnection Cost See Online Diagram		\$2,564,167.00	\$2,564,167.00
FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 2 new transmission		\$10,241,936.59	\$12,000,000.00
Spearville - Comanche - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
Spearville - Knoll - Axtell 345kV	Balanced Portfolio		
Hitchland-Woodward Dbl Ckt 345kV	Priority Project		
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		

* Current Study Requests' Costs of Previously Allocated Network Upgrades will be determined by a restudy, if necessary.

Interconnection Request	Upgrade Type	Allocated Costs	E + C Costs
		Current Study Total	\$12,806,103.59
<hr/>			
GEN-2008-019			
GEN-2008-019 Interconnection Cost		\$3,073,000.00	\$3,073,000.00
See Online Diagram			
Woodward - Medicine Lodge Dbl Ckt 345kV	Priority Project		
Medicine Lodge - Wichita Dbl Ckt 345kV	Priority Project		
		Current Study Total	\$3,073,000.00

* Current Study Requests' Costs of Previously Allocated Network Upgrades will be determined by a restudy, if necessary.

F: Cost Allocation per Proposed Network Upgrade

Appendix F. - Cost Allocation Per Upgrade Facility

Upgrade Facility	Allocated Costs	E + C Costs
Amarillo - Swisher Line Traps		\$77,464.00
GEN-2007-048	\$77,464.00	
Total	\$77,464.00	
FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 2		\$12,000,000.00
new transmission		
GEN-2007-046	\$1,519,518.72	
GEN-2007-057	\$238,544.69	
GEN-2008-018	\$10,241,936.59	
Total	\$12,000,000.00	
GEN-2006-006 Interconnection Cost		\$5,516,397.00
See Online Diagram		
GEN-2006-006	\$5,516,397.00	
Total	\$5,516,397.00	
GEN-2007-021 Interconnection Cost		\$3,073,000.00
See Online Diagram		
GEN-2007-021	\$3,073,000.00	
Total	\$3,073,000.00	
GEN-2007-025 Interconnection Cost		\$10,732,000.00
GEN-2007-025	\$10,732,000.00	
Total	\$10,732,000.00	
GEN-2007-032 Interconnection Cost		\$2,350,000.00
See Online Diagram		
GEN-2007-032	\$2,350,000.00	
Total	\$2,350,000.00	
GEN-2007-038 Interconnection Cost		\$3,663,731.00
See Online Diagram		
GEN-2007-038	\$3,663,731.00	
Total	\$3,663,731.00	
GEN-2007-043 Interconnection Cost		\$8,732,000.00
See Online Diagram		
GEN-2007-043	\$8,732,000.00	
Total	\$8,732,000.00	
GEN-2007-044 Interconnection Cost		\$3,073,000.00
See Online Diagram		

Upgrade Facility	Allocated Costs	E + C Costs
GEN-2007-044	\$3,073,000.00	
Total	\$3,073,000.00	
<hr/>		
GEN-2007-046 Interconnection Cost		\$545,411.00
See Online Diagram		
GEN-2007-046	\$545,411.00	
Total	\$545,411.00	
<hr/>		
GEN-2007-048 Interconnection Cost		\$3,558,890.00
See Online Diagram		
GEN-2007-048	\$3,558,890.00	
Total	\$3,558,890.00	
<hr/>		
GEN-2007-051 Interconnection Cost		\$2,500,000.00
GEN-2007-051	\$2,500,000.00	
Total	\$2,500,000.00	
<hr/>		
GEN-2007-052 Interconnection Cost		\$900,000.00
GEN-2007-052	\$900,000.00	
Total	\$900,000.00	
<hr/>		
GEN-2007-057 Interconnection Cost		\$450,797.00
See Online Diagram		
GEN-2007-057	\$450,797.00	
Total	\$450,797.00	
<hr/>		
GEN-2007-062 Interconnection Cost		\$3,807,000.00
See Online Diagram		
GEN-2007-062	\$3,807,000.00	
Total	\$3,807,000.00	
<hr/>		
GEN-2008-003 Interconnection Cost		\$1,070,000.00
GEN-2008-003	\$1,070,000.00	
Total	\$1,070,000.00	
<hr/>		
GEN-2008-008 Interconnection Cost		\$622,212.00
See Online Diagram		
GEN-2008-008	\$622,212.00	
Total	\$622,212.00	
<hr/>		
GEN-2008-013 Interconnection Cost		\$9,277,000.00
See Online Diagram		
GEN-2008-013	\$9,277,000.00	

Upgrade Facility	Allocated Costs	E + C Costs
	Total	
	\$9,277,000.00	
GEN-2008-017 Interconnection Cost		\$4,450,000.00
See Online Diagram		
GEN-2008-017	\$4,450,000.00	
	Total	
	\$4,450,000.00	
GEN-2008-018 Interconnection Cost		\$2,564,167.00
See Online Diagram		
GEN-2008-018	\$2,564,167.00	
	Total	
	\$2,564,167.00	
GEN-2008-019 Interconnection Cost		\$3,073,000.00
See Online Diagram		
GEN-2008-019	\$3,073,000.00	
	Total	
	\$3,073,000.00	
Current Study Upgrades Total		\$82,036,069.00

G: Power Flow ACCC Analysis (Constraints for Mitigation)

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	T%LOADING		CONTINGENCY
									(%MVA)		
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1	106.6364		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	0.40794	106.3641		WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1
FDNS	07G07_032		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1	106.3221		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1	106.1957		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1	106.1259		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1	106.1095		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 13WP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1	105.7685		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 18WP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1	105.7252		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	0.40794	103.6726		HINTON - WEATHERFORD JCT. 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	0.40794	102.9266		Canadian Pump Station - HINTON 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72897	118.9253		GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69947	117.0154		ELKCITY7 345.00 - GRACEMONT 345KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69947	116.911		ELKCITY7 345.00 345/230KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71741	116.065		CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71741	115.6695		CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67646	114.3375		OGE3TERM10
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67646	114.3128		JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67194	113.7362		ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72223	113.5888		SPP-SWPS-01
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72223	113.5577		OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	112.7592		GEN523971 1-HARRINGTON GEN #1 24 KV
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	112.7557		GEN523972 1-HARRINGTON GEN #2 24 KV
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	112.7083		GEN523973 1-HARRINGTON GEN #3 24 KV
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71382	112.6671		MOORELAND - NINE MILE 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71382	112.6485		MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	112.5278		GEN525562 1-TOLK GEN #2 24 KV
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.7221	112.3786		ANADARKO - BLANCHARD 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72193	112.3251		ANADARKO - POCASSETT 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72089	112.3115		BLUCANS 4 138.00 - PARADISE 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72193	112.2614		POCASSETT - TUTTLE 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	110.0252		BASE CASE
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67232	109.901		ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71901	108.3462		CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71901	108.2758		SPP-AEPW-24
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71364	107.9201		SPP-SWPS-02A
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72941	107.911		GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	107.8878		GEN511847 1-SOUTHWESTERN STATION #2
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71364	107.821		ELK CITY 230KV - SWEETWATER 230KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	107.7452		GEN511850 1-SOUTHWESTERN STATION #5
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	107.745		GEN511849 1-SOUTHWESTERN STATION #4
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.64389	107.5565		OGE3TERM10
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.6439	107.5202		JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.68739	107.4628		GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	107.4036		GEN511846 1-SOUTHWESTERN STATION #1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67289	106.9737		SPP-SWPS-03
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71792	106.9361		CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.7192	106.932		ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.63474	106.9239		HINTON - WEATHERFORD JCT. 138KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69054	106.7728		CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67293	106.6945		GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.68242	106.5904		MOORELAND - NINE MILE 138KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.68242	106.5597		MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71792	106.554		CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	106.3847		GEN523971 1-HARRINGTON GEN #1 24 KV
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	106.3781		GEN523972 1-HARRINGTON GEN #2 24 KV
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	106.277		GEN523973 1-HARRINGTON GEN #3 24 KV

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY		
									(%MVA)				
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.69054	106.2412	CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.71364	106.1546	STLN-DEMARC6 - SWEETWATER 230KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.67691	106.1276	OGE3TERM10
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.69874	106.1221	GEN525562 1-TOLK GEN #2 24 KV
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.67692	106.1043	JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.7	105.8489	ELKCITY7 345.00 - GRACEMONT 345KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.7	105.7662	ELKCITY7 345.00 345/230KV TRANSFORMER CKT 1
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.69874	105.4795	GEN525561 1-TOLK GEN #1 24 KV
FDNS	07ALL		0	13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	105.167	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72152	105.1579	GEN523971 1-HARRINGTON GEN #1 24 KV
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72152	105.1546	GEN523972 1-HARRINGTON GEN #2 24 KV
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.71826	105.1298	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72152	105.1038	GEN523973 1-HARRINGTON GEN #3 24 KV
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.71424	105.0247	MOORELAND - NINE MILE 138KV CKT 1
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.59162	105.0085	Canadian Pump Station - JENSEN ROAD 138KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.71424	105.007	MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72152	104.9843	GEN525562 1-TOLK GEN #2 24 KV
FDNS	00G07_032		0	13WP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	104.9598	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	104.9349	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0	18WP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	104.9327	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	104.9276	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07G07_032		0	13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	104.9222	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	104.8872	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72152	104.6841	GEN525561 1-TOLK GEN #1 24 KV
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.71703	104.6516	SPP-SWPS-03
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.67293	104.5063	ELK CITY 230KV - SWEETWATER 230KV CKT 1
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.67293	104.5063	SPP-SWPS-02A
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.67293	104.5059	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72256	104.3107	ANADARKO - BLANCHARD 138KV CKT 1
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.63474	103.7745	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72877	103.767	SOUTHWESTERN STATION - WASHITA 138KV CKT 1
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.67131	103.7563	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.67131	103.7009	CLINTON NATURAL GAS TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0	13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	103.5193	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07G07_032		0	13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	103.3049	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.69831	102.9387	BLUCANS 4 138.00 - PARADISE 138KV CKT 1
FDNS	00G07_032		0	13WP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	102.8849	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.69874	102.8848	GEN527903 1-HOBBS PLANT #3 (ST)
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.6911	102.878	ELK CITY - RED HILLS WIND 138KV CKT 1
FDNS	00G07_032		0	18WP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	102.7272	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	102.7165	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.69874	102.6922	GEN520998 1-MORLND3
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	102.4849	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72152	102.1701	BASE CASE
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.67131	102.1161	CLINTON JUNCTION - CLINTON NATURAL GAS TAP 138KV CKT 1
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72106	101.4836	GEN511848 1-SOUTHWESTERN STATION #3
FDNS	00G07_032		0	23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.67131	101.3804	WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0	13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	101.0058	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07G07_032		0	13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	1	100.8251	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	00G07_032		0	13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.69874	100.5823	BASE CASE
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.72152	100	GEN511847 1-SOUTHWESTERN STATION #2
FDNS	00G07_032		0	18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T	138.00	138KV	143	0.6352	99.8	Canadian Pump Station - HINTON 138KV CKT 1
FDNS	00G07_048		0	23SP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T	230.00	230KV	361	1	111.8134	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G07_048		0	13SP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T	230.00	230KV	361	1	111.6695	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1
FDNS	05ALL		0	13G	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T	230.00	230KV	361	1	111.5326	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G07_048		0	13WP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T	230.00	230KV	361	1	111.5287	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)	(%MVA)	
FDNS	00G07_048		0 18WP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1	111.5261	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	05G07_048		0 13G	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1	111.5248	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	00G07_048		0 18SP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1	111.396	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	00G07_048		0 13SP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1	113.4529	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	00G07_048		0 23SP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1	113.188	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	00G07_048		0 18SP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1	112.7672	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	05ALL		0 13G	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1	112.7454	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	05G07_048		0 13G	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1	112.632	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	00G07_048		0 13WP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1	112.2967	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	00G07_048		0 18WP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1	111.6933	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	00G07_048		0 13SP	G07_048	FROM->TO	SWISHER COUNTY INTERCHANGE (GE M101686) 230/115/13.2KV TRANSFORMER CKT 1	150	0.21392	100.445	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	

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

H-0

Impact Study for Grouped Generation Interconnection Requests – (ICS-2008-001-5)

SPP RESTRICTED

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	03ALL		0 13G	G06_006	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04304	102.8064	DBL-WICH-THI	
FDNS	03ALL		0 13G	G06_006	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04304	135.6180	DBL-WICH-THI	
FDNS	01ALL		0 13G	G06_006	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04320	126.6283	DBL-WICH-THI	
FDNS	03G06_006		0 13G	G06_006	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04312	123.8874	DBL-WICH-THI	
FDNS	3		0 13G	G06_006	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04314	118.1205	DBL-WICH-THI	
FDNS	1		0 13G	G06_006	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04323	112.3590	DBL-WICH-THI	
FDNS	02ALL		0 13G	G06_006	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04304	106.0786	DBL-WICH-THI	
FDNS	05ALL		0 13G	G06_006	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04301	100.0000	DBL-WICH-THI	
FDNS	03ALL		0 13G	G06_006	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.05223	128.6388	DBL-SPRVL-CL	
FDNS	03ALL		0 13G	G06_006	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.05223	128.4535	DBL-THIS-CLR	
FDNS	03G06_006		0 13G	G06_006	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.05238	101.3016	DBL-SPRVL-CL	
FDNS	03G06_006		0 13G	G06_006	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.05238	101.0616	DBL-THIS-CLR	
FDNS	01ALL		0 13G	G06_006	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04169	107.4232	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04169	128.5665	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04097	117.1564	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	1		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04156	114.1737	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04107	113.8474	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04836	109.5206	DBL-WICH-THI	
FDNS	02ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03173	107.8803	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03G06_006		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04113	107.0949	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03179	106.4411	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	2		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04103	106.2648	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04097	104.4680	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	3		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04114	103.4741	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	05ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04092	103.4589	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04830	102.4943	DBL-WICH-THI	
FDNS	03G06_006		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04844	101.6638	DBL-WICH-THI	
FDNS	02ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03365	101.5695	IODINE - WOODWARD EHV 138KV CKT 1	
FDNS	03G06_006		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03184	101.2710	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04107	101.1615	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	02ALL		0 13G	G06_006	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03365	100.5637	DEWEY - IODINE 138KV CKT 1	
FDNS	03ALL		0 13G	G06_006	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04304	124.6872	DBL-WICH-THI	
FDNS	01ALL		0 13G	G06_006	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04320	115.5990	DBL-WICH-THI	
FDNS	03G06_006		0 13G	G06_006	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04312	112.9331	DBL-WICH-THI	
FDNS	3		0 13G	G06_006	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04314	107.1432	DBL-WICH-THI	
FDNS	1		0 13G	G06_006	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04323	101.2769	DBL-WICH-THI	
FDNS	00G06_006		0 18WP	G06_006	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.05302	100.3421	DBL-WICH-THI	
FDNS	03ALL		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05223	189.0378	DBL-SPRVL-CL	
FDNS	03ALL		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05223	188.0532	DBL-THIS-CLR	
FDNS	03ALL		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05223	183.9729	DBL-SPRVL-CL	
FDNS	03ALL		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05223	183.2164	DBL-THIS-CLR	
FDNS	03G06_006		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	150.2251	DBL-SPRVL-CL	
FDNS	03G06_006		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	149.2851	DBL-THIS-CLR	
FDNS	03G06_006		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	147.0695	DBL-SPRVL-CL	
FDNS	03G06_006		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	146.2937	DBL-THIS-CLR	
FDNS	3		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	140.4745	DBL-SPRVL-CL	
FDNS	3		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	139.6318	DBL-THIS-CLR	
FDNS	3		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	137.7228	DBL-SPRVL-CL	
FDNS	3		0 13G	G06_006	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	137.0490	DBL-THIS-CLR	
FDNS	01ALL		0 13G	G07_021	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.10067	107.4232	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10067	128.5665	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01G07_021		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10057	126.0284	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.09994	117.1564	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	1		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10053	114.1737	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10004	113.8474	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06148	112.8313	DBL-THIS-WWR	
FDNS	03ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04825	109.5206	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04161	107.8803	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04167	106.4411	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	2		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10000	106.2648		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	01G07_021		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06147	105.1963		DBL-THIS-WWR
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	104.8558		ELK CITY 230KV - SWEETWATER 230KV CKT 1
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	104.8558		SPP-SWPS-02A
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	104.8504		ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06104	104.7210		DBL-THIS-WWR
FDNS	3		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10011	103.4741		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	05ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.09989	103.4589		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03558	102.6252		SPP-SWPS-03
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04820	102.4943		DBL-WICH-THI
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	101.6174		GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04340	101.5695		IODINE - WOODWARD EHV 138KV CKT 1
FDNS	02ALL		0 13G	G07_021	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04340	100.5637		DEWEY - IODINE 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1.00000	106.6364		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	0.40794	106.3641		WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1
FDNS	07G07_032		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1.00000	106.3221		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1.00000	106.1957		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1.00000	106.1259		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1.00000	106.1095		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 13WP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1.00000	105.7685		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	00G07_032		0 18WP	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	1.00000	105.7252		CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	0.40794	103.6726		HINTON - WEATHERFORD JCT. 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON - G07-32T 138.00 138KV CKT 1	143	0.40794	102.9266		Canadian Pump Station - HINTON 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON CITY - FOSS TAP 69KV CKT 1	79	0.11786	107.7704		WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON CITY - FOSS TAP 69KV CKT 1	79	0.11786	101.7884		WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	FROM->TO	CLINTON CITY - THOMAS TAP 69KV CKT 1	48	0.11786	131.7691		WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	FROM->TO	CLINTON CITY - THOMAS TAP 69KV CKT 1	48	0.11786	124.4644		WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07G07_032		0 13G	G07_032	FROM->TO	CLINTON CITY - THOMAS TAP 69KV CKT 1	48	0.11787	111.9162		WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	7		0 13G	G07_032	FROM->TO	CLINTON CITY - THOMAS TAP 69KV CKT 1	48	0.11787	104.6971		WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07G07_032		0 13G	G07_032	FROM->TO	CLINTON CITY - THOMAS TAP 69KV CKT 1	48	0.11787	104.1395		WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.11786	108.2934		WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	FROM->TO	CLINTON JUNCTION - FOSS TAP 69KV CKT 1	79	0.11786	102.3085		WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72897	118.9253		GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69947	117.0154		ELKCITY7 345.00 - GRACEMONT 345KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69947	116.9110		ELKCITY7 345.00 345/230KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71741	116.0650		CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71741	115.6695		CARNEGIE - HOBART JUNCTION 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67646	114.3375		OGE3TERM10
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67646	114.3128		JENSEN ROAD - JENSEN TAP 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67194	113.7362		ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72223	113.5888		SPP-SWPS-01
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72223	113.5577		OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	112.7592		GEN523971 1-HARRINGTON GEN #1 24 KV
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	112.7557		GEN523972 1-HARRINGTON GEN #2 24 KV
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	112.7083		GEN523973 1-HARRINGTON GEN #3 24 KV
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71382	112.6671		MOORELAND - NINE MILE 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71382	112.6485		MOREWOOD SW - NINE MILE 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	112.5278		GEN525562 1-TOLK GEN #2 24 KV
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72210	112.3786		ANADARKO - BLANCHARD 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72193	112.3251		ANADARKO - POCASSETT 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72089	112.3115		BLUCANS 4 138.00 - PARADISE 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72193	112.2614		POCASSETT - TUTTLE 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	110.0252		BASE CASE
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67232	109.9010		ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71901	108.3462		CLINTON JUNCTION (CLINTJCT) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71901	108.2758		SPP-AEPW-24
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71364	107.9201		SPP-SWPS-02A
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72941	107.9110		GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	107.8878		GEN511847 1-SOUTHWESTERN STATION #2

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71364	107.8210	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	107.7452	GEN511850 1-SOUTHWESTERN STATION #5	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	107.7450	GEN511849 1-SOUTHWESTERN STATION #4	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.64389	107.5565	OGE3TERM10	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.64390	107.5202	JENSEN ROAD - JENSEN TAP 138KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.68739	107.4628	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	107.4036	GEN511846 1-SOUTHWESTERN STATION #1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67289	106.9737	SPP-SWPS-03	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71792	106.9361	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71920	106.9320	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.63474	106.9239	HINTON - WEATHERFORD JCT. 138KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69054	106.7728	CARNEGIE - SOUTHWESTERN STATION 138KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67293	106.6945	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.68242	106.5904	MOORELAND - NINE MILE 138KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.68242	106.5597	MOREWOOD SW - NINE MILE 138KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71792	106.5540	CARNEGIE - HOBART JUNCTION 138KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	106.3847	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	106.3781	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	106.2770	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69054	106.2412	CARNEGIE - HOBART JUNCTION 138KV CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71364	106.1546	STLN-DEMARC6 - SWEETWATER 230KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67691	106.1276	OGE3TERM10	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	106.1221	GEN525562 1-TOLK GEN #2 24 KV	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67692	106.1043	JENSEN ROAD - JENSEN TAP 138KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.70000	105.8489	ELKCITY7 345.00 - GRACEMONT 345KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.70000	105.7662	ELKCITY7 345.00 345/230KV TRANSFORMER CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	105.4795	GEN525561 1-TOLK GEN #1 24 KV	
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	105.1670	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72152	105.1579	GEN523971 1-HARRINGTON GEN #1 24 KV	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72152	105.1546	GEN523972 1-HARRINGTON GEN #2 24 KV	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71826	105.1298	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72152	105.1038	GEN523973 1-HARRINGTON GEN #3 24 KV	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71424	105.0247	MOORELAND - NINE MILE 138KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.59162	105.0085	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71424	105.0070	MOREWOOD SW - NINE MILE 138KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72152	104.9843	GEN525562 1-TOLK GEN #2 24 KV	
FDNS	00G07_032		0 13WP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	104.9598	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	104.9349	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	00G07_032		0 18WP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	104.9327	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	104.9276	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	07G07_032		0 13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	104.9222	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	104.8872	CLINTON - G07-32T 138.00 138KV CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72152	104.6841	GEN525561 1-TOLK GEN #1 24 KV	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.71703	104.6516	SPP-SWPS-03	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67293	104.5063	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67293	104.5063	SPP-SWPS-02A	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67293	104.5059	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72256	104.3107	ANADARKO - BLANCHARD 138KV CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.63474	103.7745	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72877	103.7670	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67131	103.7563	WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1	
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67131	103.7009	CLINTON NATURAL GAS TAP - WEATHERFORD WIND FARM 138KV CKT 1	
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	103.5193	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	07G07_032		0 13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	103.3049	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69831	102.9387	BLUCANS 4 138.00 - PARADISE 138KV CKT 1	
FDNS	00G07_032		0 13WP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	102.8849	CLINTON - WEATHERFORD 138KV CKT 1	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	102.8848	GEN527903 1-HOBBS PLANT #3 (ST)	
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69110	102.8780	ELK CITY - RED HILLS WIND 138KV CKT 1	
FDNS	00G07_032		0 18WP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	102.7272	CLINTON - WEATHERFORD 138KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	102.7165		CLINTON - WEATHERFORD 138KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	102.6922		GEN520998 1-MORLND3
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	102.4849		CLINTON - WEATHERFORD 138KV CKT 1
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72152	102.1701		BASE CASE
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67131	102.1161		CLINTON JUNCTION - CLINTON NATURAL GAS TAP 138KV CKT 1
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72106	101.4836		GEN511848 1-SOUTHWESTERN STATION #3
FDNS	00G07_032		0 23SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.67131	101.3804		WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	101.0058		HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07G07_032		0 13G	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	1.00000	100.8251		HYDRO - WEATHERFORD 138KV CKT 1
FDNS	00G07_032		0 13SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.69874	100.5823		BASE CASE
FDNS	00G07_032		0 18SP	G07_032	TO->FROM	CLINTON JUNCTION - G07-32T 138.00 138KV CKT 1	143	0.72152	100.0000		GEN511847 1-SOUTHWESTERN STATION #2
FDNS	07ALL		0 13G	G07_032	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.11786	126.0825		WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	07ALL		0 13G	G07_032	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.11786	118.8440		WEATHERFORD SOUTHEAST - WEATHERFORD TAP 138KV CKT 1
FDNS	07G07_032		0 13G	G07_032	FROM->TO	THOMAS TAP - WEATHERFORD 69KV CKT 1	48	0.11787	106.2993		WEATHERFORD TAP - WEATHERFORD WIND FARM 138KV CKT 1
FDNS	03ALL		0 13G	G07_038	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04304	102.8064		DBL-WICH-THI
FDNS	03ALL		0 13G	G07_038	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04304	135.6180		DBL-WICH-THI
FDNS	01ALL		0 13G	G07_038	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04320	126.6283		DBL-WICH-THI
FDNS	03G07_038		0 13G	G07_038	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04312	123.8874		DBL-WICH-THI
FDNS	3		0 13G	G07_038	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04314	118.1205		DBL-WICH-THI
FDNS	1		0 13G	G07_038	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04323	112.3590		DBL-WICH-THI
FDNS	02ALL		0 13G	G07_038	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04304	106.0786		DBL-WICH-THI
FDNS	05ALL		0 13G	G07_038	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.04301	100.0000		DBL-WICH-THI
FDNS	03ALL		0 13G	G07_038	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.05223	128.6388		DBL-SPRVL-CL
FDNS	03ALL		0 13G	G07_038	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.05223	128.4535		DBL-THIS-CLR
FDNS	03G07_038		0 13G	G07_038	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.05238	101.3016		DBL-SPRVL-CL
FDNS	03G07_038		0 13G	G07_038	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.05238	101.0616		DBL-THIS-CLR
FDNS	01ALL		0 13G	G07_038	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04169	107.4232		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	01ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04169	128.5665		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04097	117.1564		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	1		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04156	114.1737		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04107	113.8474		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04836	109.5206		DBL-WICH-THI
FDNS	02ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03173	107.8803		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
FDNS	03G07_038		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04113	107.0949		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03179	106.4411		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
FDNS	2		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04103	106.2648		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04097	104.4680		TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04114	103.4741		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	05ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04092	103.4589		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04830	102.4943		DBL-WICH-THI
FDNS	03G07_038		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04844	101.6638		DBL-WICH-THI
FDNS	02ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03365	101.5695		IODINE - WOODWARD EHV 138KV CKT 1
FDNS	03G07_038		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03184	101.2710		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
FDNS	03ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04107	101.1615		TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	02ALL		0 13G	G07_038	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03365	100.5637		DEWEY - IODINE 138KV CKT 1
FDNS	03ALL		0 13G	G07_038	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04304	124.6872		DBL-WICH-THI
FDNS	01ALL		0 13G	G07_038	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04320	115.5990		DBL-WICH-THI
FDNS	03G07_038		0 13G	G07_038	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04312	112.9331		DBL-WICH-THI
FDNS	3		0 13G	G07_038	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04314	107.1432		DBL-WICH-THI
FDNS	1		0 13G	G07_038	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04323	101.2769		DBL-WICH-THI
FDNS	00G07_038		0 18WP	G07_038	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.05302	100.3421		DBL-WICH-THI
FDNS	03ALL		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05223	189.0378		DBL-SPRVL-CL
FDNS	03ALL		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05223	188.0532		DBL-THIS-CLR
FDNS	03ALL		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05223	183.9729		DBL-SPRVL-CL
FDNS	03ALL		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05223	183.2164		DBL-THIS-CLR
FDNS	03G07_038		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	150.2251		DBL-SPRVL-CL
FDNS	03G07_038		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	149.2851		DBL-THIS-CLR
FDNS	03G07_038		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	147.0695		DBL-SPRVL-CL
FDNS	03G07_038		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	146.2937		DBL-THIS-CLR

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	3		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	140.4745	DBL-SPRVL-CL	
FDNS	3		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	139.6318	DBL-THIS-CLR	
FDNS	3		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	137.7228	DBL-SPRVL-CL	
FDNS	3		0 13G	G07_038	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.05238	137.0490	DBL-THIS-CLR	
FDNS	01ALL		0 13G	G07_044	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.10067	107.4232	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10067	128.5665	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01G07_044		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10057	126.0284	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.09994	117.1564	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	1		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10053	114.1737	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	03ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10004	113.8474	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06148	112.8313	DBL-THIS-WWR	
FDNS	03ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04825	109.5206	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04161	107.8803	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04167	106.4411	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	2		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10000	106.2648	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01G07_044		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06147	105.1963	DBL-THIS-WWR	
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	104.8558	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	104.8558	SPP-SWPS-02A	
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	104.8504	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06104	104.7210	DBL-THIS-WWR	
FDNS	3		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10011	103.4741	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	05ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.09989	103.4589	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03558	102.6252	SPP-SWPS-03	
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04820	102.4943	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	101.6174	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04340	101.5695	IODINE - WOODWARD EHV 138KV CKT 1	
FDNS	02ALL		0 13G	G07_044	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04340	100.5637	DEWEY - IODINE 138KV CKT 1	
FDNS	03ALL		0 13G	G07_046	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03269	102.8064	DBL-WICH-THI	
FDNS	03ALL		0 13G	G07_046	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03269	135.6180	DBL-WICH-THI	
FDNS	01ALL		0 13G	G07_046	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03286	126.6283	DBL-WICH-THI	
FDNS	3		0 13G	G07_046	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03279	118.1205	DBL-WICH-THI	
FDNS	1		0 13G	G07_046	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03288	112.3590	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_046	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03270	106.0786	DBL-WICH-THI	
FDNS	05ALL		0 13G	G07_046	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03267	100.0000	DBL-WICH-THI	
FDNS	01ALL		0 13G	G07_046	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.06102	107.4232	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06102	128.5665	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06029	117.1564	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	1		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06088	114.1737	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	03ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06039	113.8474	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06132	112.8313	DBL-THIS-WWR	
FDNS	03ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05475	109.5206	DBL-WICH-THI	
FDNS	02G07_046		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06034	108.1343	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04408	107.8803	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04414	106.4411	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	2		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06035	106.2648	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05007	104.8558	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05007	104.8558	SPP-SWPS-02A	
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05007	104.8504	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06088	104.7210	DBL-THIS-WWR	
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06029	104.4680	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	3		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06046	103.4741	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	05ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06024	103.4589	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05019	102.6252	SPP-SWPS-03	
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05470	102.4943	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05007	101.6174	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04722	101.5695	IODINE - WOODWARD EHV 138KV CKT 1	
FDNS	03ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06039	101.1615	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	02ALL		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04722	100.5637	DEWEY - IODINE 138KV CKT 1	
FDNS	02G07_046		0 13G	G07_046	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04411	100.5624	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)	(%MVA)	
FDNS	03ALL		0 13G	G07_046	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03269	124.6872	DBL-WICH-THI	
FDNS	01ALL		0 13G	G07_046	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03286	115.5990	DBL-WICH-THI	
FDNS	3		0 13G	G07_046	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03279	107.1432	DBL-WICH-THI	
FDNS	1		0 13G	G07_046	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03288	101.2769	DBL-WICH-THI	
FDNS	00G07_046		0 23SP	G07_046	FROM->TO	HITCHLAND INTERCHANGE - TEXAS COUNTY INTERCHANGE 115KV CKT 1	160	0.05636	105.3177	HITCHLAND INTERCHANGE - TEXAS COUNTY INTERCHANGE 115KV CKT 2	
FDNS	00G07_048		0 23SP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1.00000	111.8134	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	00G07_048		0 13SP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1.00000	111.6695	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	05ALL		0 13G	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1.00000	111.5326	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	00G07_048		0 13WP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1.00000	111.5287	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	00G07_048		0 18WP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1.00000	111.5261	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	05G07_048		0 13G	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1.00000	111.5248	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	00G07_048		0 18SP	G07_048	TO->FROM	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	361	1.00000	111.3960	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	05ALL		0 13G	G07_048	FROM->TO	BUSHLAND INTERCHANGE - POTTER COUNTY INTERCHANGE 230KV CKT 1	351	0.03322	116.9100	BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1	
FDNS	01ALL		0 13G	G07_048	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03904	107.4232	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03904	128.5665	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03832	117.1564	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	1		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03891	114.1737	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03842	113.8474	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04286	112.8313	DBL-THIS-WWR	
FDNS	03ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03490	109.5206	DBL-WICH-THI	
FDNS	2		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03838	106.2648	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04035	104.8558	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	02ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04035	104.8558	SPP-SWPS-02A	
FDNS	02ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04035	104.8504	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	02ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04242	104.7210	DBL-THIS-WWR	
FDNS	02ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03832	104.4680	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	3		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03848	103.4741	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	05ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03827	103.4589	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04065	102.6252	SPP-SWPS-03	
FDNS	02ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03485	102.4943	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04035	101.6174	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	03ALL		0 13G	G07_048	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03842	101.1615	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00G07_048		0 13SP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1.00000	113.4529	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	00G07_048		0 23SP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1.00000	113.1880	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	00G07_048		0 18SP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1.00000	112.7672	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	05ALL		0 13G	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1.00000	112.7454	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	05G07_048		0 13G	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1.00000	112.6320	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	00G07_048		0 13WP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1.00000	112.2967	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	00G07_048		0 18WP	G07_048	FROM->TO	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	361	1.00000	111.6933	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	05ALL		0 13G	G07_048	TO->FROM	HAPPY INTERCHANGE - PALO DURO SUB 115KV CKT 1	96	0.05904	100.3605	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	05ALL		0 13G	G07_048	TO->FROM	PALO DURO SUB - RANDALL COUNTY INTERCHANGE 115KV CKT 1	96	0.05904	103.2165	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	05G07_048		0 13G	G07_048	TO->FROM	PALO DURO SUB - RANDALL COUNTY INTERCHANGE 115KV CKT 1	96	0.05899	100.3617	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	02ALL		0 13G	G07_048	TO->FROM	PALO DURO SUB - RANDALL COUNTY INTERCHANGE 115KV CKT 1	96	0.05896	100.0000	G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1	
FDNS	00G07_048		0 13SP	G07_048	FROM->TO	SWISHER COUNTY INTERCHANGE (GE M101686) 230/115/13.2KV TRANSFORMER CKT 1	150	0.21392	100.4450	AMARILLO SOUTH INTERCHANGE - G07-48T 230.00 230KV CKT 1	
FDNS	03ALL		0 13G	G07_050	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03427	102.8064	DBL-WICH-THI	
FDNS	03ALL		0 13G	G07_050	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03427	135.6180	DBL-WICH-THI	
FDNS	01ALL		0 13G	G07_050	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03444	126.6283	DBL-WICH-THI	
FDNS	3		0 13G	G07_050	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03437	118.1205	DBL-WICH-THI	
FDNS	01G07_050		0 13G	G07_050	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03446	114.3015	DBL-WICH-THI	
FDNS	1		0 13G	G07_050	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03446	112.3590	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_050	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03428	106.0786	DBL-WICH-THI	
FDNS	05ALL		0 13G	G07_050	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03425	100.0000	DBL-WICH-THI	
FDNS	01ALL		0 13G	G07_050	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.14888	107.4232	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14888	128.5665	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01G07_050		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14875	120.4925	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14815	117.1564	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	1		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14874	114.1737	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14825	113.8474	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.15547	112.8313	DBL-THIS-WWR	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	03ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.13810	109.5206	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.13716	107.8803	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.13721	106.4411	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	2		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14821	106.2648	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	104.8558	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	104.8558	SPP-SWPS-02A	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	104.8504	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.15503	104.7210	DBL-THIS-WWR	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14815	104.4680	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	01G07_050		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.15545	103.8895	DBL-THIS-WWR	
FDNS	3		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14832	103.4741	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	05ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14810	103.4589	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	102.6252	SPP-SWPS-03	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.13804	102.4943	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	101.6174	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14469	101.5695	IODINE - WOODWARD EHV 138KV CKT 1	
FDNS	03ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14825	101.1615	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	02ALL		0 13G	G07_050	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14469	100.5637	DEWEY - IODINE 138KV CKT 1	
FDNS	03ALL		0 13G	G07_050	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03427	124.6872	DBL-WICH-THI	
FDNS	01ALL		0 13G	G07_050	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03444	115.5990	DBL-WICH-THI	
FDNS	3		0 13G	G07_050	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03437	107.1432	DBL-WICH-THI	
FDNS	01G07_050		0 13G	G07_050	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03446	103.2255	DBL-WICH-THI	
FDNS	1		0 13G	G07_050	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03446	101.2769	DBL-WICH-THI	
FDNS	01ALL		0 13G	G07_050	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05899	121.9139	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	01G07_050		0 13G	G07_050	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05895	114.1820	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	02ALL		0 13G	G07_050	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05877	110.9046	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	03ALL		0 13G	G07_050	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05880	109.2848	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	1		0 13G	G07_050	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05895	109.2514	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	02ALL		0 13G	G07_050	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05877	102.6788	FPL SWITCH - WOODWARD 138KV CKT 1	
FDNS	2		0 13G	G07_050	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05879	102.5664	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	3		0 13G	G07_050	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05882	101.6222	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	03ALL		0 13G	G07_050	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05880	100.8297	FPL SWITCH - WOODWARD 138KV CKT 1	
FDNS	03ALL		0 13G	G07_057	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03026	102.8064	DBL-WICH-THI	
FDNS	03ALL		0 13G	G07_057	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03026	135.6180	DBL-WICH-THI	
FDNS	01ALL		0 13G	G07_057	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03042	126.6283	DBL-WICH-THI	
FDNS	3		0 13G	G07_057	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03035	118.1205	DBL-WICH-THI	
FDNS	1		0 13G	G07_057	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03045	112.3590	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_057	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03026	106.0786	DBL-WICH-THI	
FDNS	05ALL		0 13G	G07_057	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03023	100.0000	DBL-WICH-THI	
FDNS	01ALL		0 13G	G07_057	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04943	107.4232	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04943	128.5665	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04870	117.1564	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	1		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04930	114.1737	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04881	113.8474	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05124	112.8313	DBL-THIS-WWR	
FDNS	03ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04416	109.5206	DBL-WICH-THI	
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03348	107.8803	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	02G07_057		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04876	106.5423	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03354	106.4411	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	2		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04877	106.2648	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04586	104.8558	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04586	104.8558	SPP-SWPS-02A	
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04586	104.8504	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05080	104.7210	DBL-THIS-WWR	
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04870	104.4680	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	3		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04887	103.4741	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	05ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04866	103.4589	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04600	102.6252	SPP-SWPS-03	
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04411	102.4943	DBL-WICH-THI	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04586	101.6174		GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03636	101.5695		IODINE - WOODWARD EHV 138KV CKT 1
FDNS	03ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04881	101.1615		TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	02ALL		0 13G	G07_057	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03636	100.5637		DEWEY - IODINE 138KV CKT 1
FDNS	05ALL		0 13G	G07_057	TO->FROM	HAPPY INTERCHANGE - PALO DURO SUB 115KV CKT 1	96	0.03994	100.3605		G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1
FDNS	03ALL		0 13G	G07_057	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03026	124.6872		DBL-WICH-THI
FDNS	01ALL		0 13G	G07_057	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03042	115.5990		DBL-WICH-THI
FDNS	3		0 13G	G07_057	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03035	107.1432		DBL-WICH-THI
FDNS	1		0 13G	G07_057	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03045	101.2769		DBL-WICH-THI
FDNS	05ALL		0 13G	G07_057	TO->FROM	PALO DURO SUB - RANDALL COUNTY INTERCHANGE 115KV CKT 1	96	0.03994	103.2165		G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1
FDNS	02ALL		0 13G	G07_057	TO->FROM	PALO DURO SUB - RANDALL COUNTY INTERCHANGE 115KV CKT 1	96	0.03986	100.0000		G07-48T 230.00 - SWISHER COUNTY INTERCHANGE 230KV CKT 1
FDNS	03ALL		0 13G	G07_062	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03818	102.8064		DBL-WICH-THI
FDNS	03ALL		0 13G	G07_062	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03818	135.6180		DBL-WICH-THI
FDNS	01ALL		0 13G	G07_062	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03834	126.6283		DBL-WICH-THI
FDNS	3		0 13G	G07_062	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03828	118.1205		DBL-WICH-THI
FDNS	01G07_062		0 13G	G07_062	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03837	117.9500		DBL-WICH-THI
FDNS	1		0 13G	G07_062	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03837	112.3590		DBL-WICH-THI
FDNS	02ALL		0 13G	G07_062	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03819	106.0786		DBL-WICH-THI
FDNS	05ALL		0 13G	G07_062	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03816	100.0000		DBL-WICH-THI
FDNS	01ALL		0 13G	G07_062	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.10067	107.4232		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	01ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10067	128.5665		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	01G07_062		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10058	124.8997		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.09994	117.1564		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	1		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10053	114.1737		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10004	113.8474		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	01ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10685	112.8313		DBL-THIS-WWR
FDNS	03ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.08800	109.5206		DBL-WICH-THI
FDNS	01G07_062		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10684	109.0978		DBL-THIS-WWR
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.07827	107.8803		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
FDNS	03ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.07832	106.4411		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
FDNS	2		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10000	106.2648		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.07000	104.8558		ELK CITY 230KV - SWEETWATER 230KV CKT 1
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.07000	104.8558		SPP-SWPS-02A
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.07000	104.8504		ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10641	104.7210		DBL-THIS-WWR
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.09994	104.4680		TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10011	103.4741		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	05ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.09989	103.4589		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.07002	102.6252		SPP-SWPS-03
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.08795	102.4943		DBL-WICH-THI
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.07000	101.6174		GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.08259	101.5695		IODINE - WOODWARD EHV 138KV CKT 1
FDNS	03ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10004	101.1615		TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	02ALL		0 13G	G07_062	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.08259	100.5637		DEWEY - IODINE 138KV CKT 1
FDNS	03ALL		0 13G	G07_062	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03818	124.6872		DBL-WICH-THI
FDNS	01ALL		0 13G	G07_062	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03834	115.5990		DBL-WICH-THI
FDNS	3		0 13G	G07_062	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03828	107.1432		DBL-WICH-THI
FDNS	01G07_062		0 13G	G07_062	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03837	106.9067		DBL-WICH-THI
FDNS	00G07_062		0 18WP	G07_062	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04630	103.1013		DBL-WICH-THI
FDNS	1		0 13G	G07_062	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03837	101.2769		DBL-WICH-THI
FDNS	01ALL		0 13G	G07_062	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.03377	121.9139		FPL SWITCH - MOORELAND 138KV CKT 1
FDNS	01G07_062		0 13G	G07_062	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.03374	116.9341		FPL SWITCH - MOORELAND 138KV CKT 1
FDNS	02ALL		0 13G	G07_062	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.03355	110.9046		FPL SWITCH - MOORELAND 138KV CKT 1
FDNS	03ALL		0 13G	G07_062	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.03358	109.2848		FPL SWITCH - MOORELAND 138KV CKT 1
FDNS	1		0 13G	G07_062	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.03373	109.2514		FPL SWITCH - MOORELAND 138KV CKT 1
FDNS	02ALL		0 13G	G07_062	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.03355	102.6788		FPL SWITCH - WOODWARD 138KV CKT 1
FDNS	2		0 13G	G07_062	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.03357	102.5664		FPL SWITCH - MOORELAND 138KV CKT 1
FDNS	3		0 13G	G07_062	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.03360	101.6222		FPL SWITCH - MOORELAND 138KV CKT 1
FDNS	03ALL		0 13G	G07_062	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.03358	100.8297		FPL SWITCH - WOODWARD 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	03ALL		0 13G	G08_003	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03427	102.8064	DBL-WICH-THI	
FDNS	03ALL		0 13G	G08_003	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03427	135.6180	DBL-WICH-THI	
FDNS	01ALL		0 13G	G08_003	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03444	126.6283	DBL-WICH-THI	
FDNS	3		0 13G	G08_003	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03437	118.1205	DBL-WICH-THI	
FDNS	01G08_003		0 13G	G08_003	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03446	114.3015	DBL-WICH-THI	
FDNS	1		0 13G	G08_003	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03446	112.3590	DBL-WICH-THI	
FDNS	02ALL		0 13G	G08_003	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03428	106.0786	DBL-WICH-THI	
FDNS	05ALL		0 13G	G08_003	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03425	100.0000	DBL-WICH-THI	
FDNS	01ALL		0 13G	G08_003	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.14888	107.4232	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14888	128.5665	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01G08_003		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14875	120.4925	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14815	117.1564	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	1		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14874	114.1737	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	03ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14825	113.8474	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.15547	112.8313	DBL-THIS-WWR	
FDNS	03ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.13810	109.5206	DBL-WICH-THI	
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.13716	107.8803	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.13721	106.4411	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	2		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14821	106.2648	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	104.8558	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	104.8558	SPP-SWPS-02A	
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	104.8504	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.15503	104.7210	DBL-THIS-WWR	
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14815	104.4680	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	01G08_003		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.15545	103.8895	DBL-THIS-WWR	
FDNS	3		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14832	103.4741	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	05ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14810	103.4589	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	102.6252	SPP-SWPS-03	
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.13804	102.4943	DBL-WICH-THI	
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.12008	101.6174	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14469	101.5695	IODINE - WOODWARD EHV 138KV CKT 1	
FDNS	03ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14825	101.1615	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	02ALL		0 13G	G08_003	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.14469	100.5637	DEWEY - IODINE 138KV CKT 1	
FDNS	03ALL		0 13G	G08_003	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03427	124.6872	DBL-WICH-THI	
FDNS	01ALL		0 13G	G08_003	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03444	115.5990	DBL-WICH-THI	
FDNS	3		0 13G	G08_003	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03437	107.1432	DBL-WICH-THI	
FDNS	01G08_003		0 13G	G08_003	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03446	103.2255	DBL-WICH-THI	
FDNS	1		0 13G	G08_003	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03446	101.2769	DBL-WICH-THI	
FDNS	01ALL		0 13G	G08_003	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05899	121.9139	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	01G08_003		0 13G	G08_003	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05895	114.1820	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	02ALL		0 13G	G08_003	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05877	110.9046	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	03ALL		0 13G	G08_003	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05880	109.2848	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	1		0 13G	G08_003	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05895	109.2514	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	02ALL		0 13G	G08_003	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05877	102.6788	FPL SWITCH - WOODWARD 138KV CKT 1	
FDNS	2		0 13G	G08_003	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05879	102.5664	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	3		0 13G	G08_003	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05882	101.6222	FPL SWITCH - MOORELAND 138KV CKT 1	
FDNS	03ALL		0 13G	G08_003	TO->FROM	WOODWARD - WOODWARD 69KV CKT 1	65	0.05880	100.8297	FPL SWITCH - WOODWARD 138KV CKT 1	
FDNS	00G08_008		0 23SP	G08_008	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.09204	106.6269	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1	
FDNS	0		0 23SP	G08_008	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.09204	104.1683	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1	
FDNS	00G08_008		0 13SP	G08_008	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.09746	103.4715	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1	
FDNS	0		0 13SP	G08_008	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.09746	100.6925	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1	
FDNS	01ALL		0 13G	G08_008	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03968	107.4232	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03968	128.5665	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03895	117.1564	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	1		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03954	114.1737	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	03ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03905	113.8474	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04541	112.8313	DBL-THIS-WWR	
FDNS	03ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03622	109.5206	DBL-WICH-THI	
FDNS	2		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03901	106.2648	NORTHWEST - TATONGA7	345.00 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
										(%MVA)	
FDNS	02ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03491	104.8558	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	02ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03491	104.8558	SPP-SWPS-02A	
FDNS	02ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03491	104.8504	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	02ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04497	104.7210	DBL-THIS-WWR	
FDNS	02ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03895	104.4680	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	3		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03912	103.4741	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	05ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03890	103.4589	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03507	102.6252	SPP-SWPS-03	
FDNS	02ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03616	102.4943	DBL-WICH-THI	
FDNS	02ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03491	101.6174	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	03ALL		0 13G	G08_008	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03905	101.1615	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	00G08_008		0 13SP	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04907	134.6887	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	00G08_008		0 13SP	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04907	133.4758	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	0		0 13SP	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04907	132.8076	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	0		0 13SP	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04907	131.6122	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	01ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04715	117.8121	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	01ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04715	117.2812	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	1		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04728	117.1241	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	1		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04728	116.5965	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	08ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04746	116.1828	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	07ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04738	116.0798	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	04ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04741	115.8999	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	8		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04750	115.8802	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	03ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04735	115.7718	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	4		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04747	115.6874	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	7		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04746	115.6675	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	08ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04746	115.6597	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	3		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04742	115.6021	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	07ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04738	115.5572	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	04ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04741	115.3782	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	8		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04750	115.3586	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	03ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04735	115.2506	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	4		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04747	115.1667	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	7		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04746	115.1468	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	3		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04742	115.0818	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	2		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04754	113.3457	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	06G08_008		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04760	113.1461	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	2		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04754	112.8362	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	6		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04760	112.7296	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	02ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04752	112.6800	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	06G08_008		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04760	112.6376	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	6		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04760	112.2230	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	02ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04752	112.1738	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	5		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04757	111.0389	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	5		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04757	110.5405	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	05ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04757	109.4853	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	05ALL		0 13G	G08_008	FROM->TO	HOBBS INTERCHANGE (ME C0482951) 230/115/13.2KV TRANSFORMER CKT 1	150	0.04757	108.9944	HOBBS INTERCHANGE - LEA COUNTY INTERCHANGE 230KV CKT 1	
FDNS	00G08_008		0 13SP	G08_008	FROM->TO	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2	351	0.08666	101.2122	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
FDNS	0		0 13SP	G08_008	FROM->TO	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2	351	0.08664	100.0578	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	
FDNS	00G08_008		0 13SP	G08_008	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04859	104.4112	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	
FDNS	0		0 13SP	G08_008	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04860	102.4627	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	
FDNS	00G08_009		0 13SP	G08_009	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04481	104.7996	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	
FDNS	00G08_009		0 18SP	G08_009	FROM->TO	CHAVES COUNTY INTERCHANGE (GE M102125) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05988	106.1636	CHAVES COUNTY INTERCHANGE (ABB 801429) 230/115/13.2KV TRANSFORMER CKT 1	
FDNS	00G08_009		0 23SP	G08_009	FROM->TO	CHAVES COUNTY INTERCHANGE (GE M102125) 230/115/13.2KV TRANSFORMER CKT 2	171	0.06277	105.6795	CHAVES COUNTY INTERCHANGE (ABB 801429) 230/115/13.2KV TRANSFORMER CKT 1	
FDNS	00G08_009		0 18SP	G08_009	FROM->TO	CHAVES COUNTY INTERCHANGE (GE M102125) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05988	105.6196	CHAVES COUNTY INTERCHANGE (ABB 801429) 230/115/13.2KV TRANSFORMER CKT 1	
FDNS	00G08_009		0 23SP	G08_009	FROM->TO	CHAVES COUNTY INTERCHANGE (GE M102125) 230/115/13.2KV TRANSFORMER CKT 2	171	0.06277	104.3976	CHAVES COUNTY INTERCHANGE (ABB 801429) 230/115/13.2KV TRANSFORMER CKT 1	
FDNS	01ALL		0 13G	G08_009	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04035	107.4232	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04035	128.5665	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03962	117.1564	NORTHWEST - TATONGA7 345.00 345KV CKT 1	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	1		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04021	114.1737		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03972	113.8474		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	01ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04527	112.8313		DBL-THIS-WWR
FDNS	03ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03656	109.5206		DBL-WICH-THI
FDNS	2		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03968	106.2648		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03720	104.8558		ELK CITY 230KV - SWEETWATER 230KV CKT 1
FDNS	02ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03720	104.8558		SPP-SWPS-02A
FDNS	02ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03720	104.8504		ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1
FDNS	02ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04483	104.7210		DBL-THIS-WWR
FDNS	02ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03962	104.4680		TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03979	103.4741		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	05ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03957	103.4589		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03740	102.6252		SPP-SWPS-03
FDNS	02ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03651	102.4943		DBL-WICH-THI
FDNS	02ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03720	101.6174		GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	03ALL		0 13G	G08_009	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03972	101.1615		TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	00G08_009		0 13SP	G08_009	FROM->TO	OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08019	120.5377		ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G08_009		0 13SP	G08_009	FROM->TO	OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08019	118.9998		ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0		0 13SP	G08_009	FROM->TO	OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08020	114.3296		ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0		0 13SP	G08_009	FROM->TO	OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08020	112.7617		ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G08_009		0 13SP	G08_009	FROM->TO	ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1	252	0.06593	123.3743		OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G08_009		0 13SP	G08_009	FROM->TO	ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1	252	0.06593	121.5029		OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0		0 13SP	G08_009	FROM->TO	ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1	252	0.06595	118.2282		OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0		0 13SP	G08_009	FROM->TO	ROOSEVELT COUNTY INTERCHANGE (ABB LMM60042) 230/115/13.2KV TRANSFORMER CKT 1	252	0.06595	116.3203		OASIS INTERCHANGE (ABB LLM60041) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G08_009		0 13SP	G08_009	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04584	116.5504		CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G08_009		0 13SP	G08_009	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05960	112.2891		ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0		0 13SP	G08_009	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04587	109.6461		CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G08_009		0 13SP	G08_009	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05876	105.9918		BASE CASE
FDNS	0		0 13SP	G08_009	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05963	102.4627		ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00G08_009		0 13SP	G08_009	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06062	101.1143		LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00G08_009		0 13SP	G08_009	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08827	100.5884		TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	03ALL		0 13G	G08_017	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03174	102.8064		DBL-WICH-THI
FDNS	03ALL		0 13G	G08_017	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03174	135.6180		DBL-WICH-THI
FDNS	01ALL		0 13G	G08_017	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03190	126.6283		DBL-WICH-THI
FDNS	3		0 13G	G08_017	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03184	118.1205		DBL-WICH-THI
FDNS	1		0 13G	G08_017	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03193	112.3590		DBL-WICH-THI
FDNS	02ALL		0 13G	G08_017	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03175	106.0786		DBL-WICH-THI
FDNS	05ALL		0 13G	G08_017	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03172	100.0000		DBL-WICH-THI
FDNS	03ALL		0 13G	G08_017	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.03644	128.6388		DBL-SPRVL-CL
FDNS	03ALL		0 13G	G08_017	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.03644	128.4535		DBL-THIS-CLR
FDNS	01ALL		0 13G	G08_017	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04276	107.4232		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	01ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04276	128.5665		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04204	117.1564		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	1		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04263	114.1737		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04214	113.8474		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04330	109.5206		DBL-WICH-THI
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03231	107.8803		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
FDNS	03ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03237	106.4411		WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1
FDNS	2		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04210	106.2648		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03024	104.8558		ELK CITY 230KV - SWEETWATER 230KV CKT 1
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03024	104.8558		SPP-SWPS-02A
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03024	104.8504		ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04204	104.4680		TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04220	103.4741		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	05ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04199	103.4589		NORTHWEST - TATONGA7 345.00 345KV CKT 1
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03027	102.6252		SPP-SWPS-03
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04324	102.4943		DBL-WICH-THI
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03024	101.6174		GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03430	101.5695		IODINE - WOODWARD EHV 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	03ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04214	101.1615	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	02ALL		0 13G	G08_017	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03430	100.5637	DEWEY - IODINE 138KV CKT 1	
FDNS	03ALL		0 13G	G08_017	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03174	124.6872	DBL-WICH-THI	
FDNS	01ALL		0 13G	G08_017	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03190	115.5990	DBL-WICH-THI	
FDNS	3		0 13G	G08_017	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03184	107.1432	DBL-WICH-THI	
FDNS	1		0 13G	G08_017	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03193	101.2769	DBL-WICH-THI	
FDNS	03ALL		0 13G	G08_017	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03644	189.0378	DBL-SPRVL-CL	
FDNS	03ALL		0 13G	G08_017	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03644	188.0532	DBL-THIS-CLR	
FDNS	03ALL		0 13G	G08_017	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03644	183.9729	DBL-SPRVL-CL	
FDNS	03ALL		0 13G	G08_017	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03644	183.2164	DBL-THIS-CLR	
FDNS	3		0 13G	G08_017	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03659	140.4745	DBL-SPRVL-CL	
FDNS	3		0 13G	G08_017	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03659	139.6318	DBL-THIS-CLR	
FDNS	3		0 13G	G08_017	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03659	137.7228	DBL-SPRVL-CL	
FDNS	3		0 13G	G08_017	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03659	137.0490	DBL-THIS-CLR	
FDNS	03ALL		0 13G	G08_018	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03551	102.8064	DBL-WICH-THI	
FDNS	03ALL		0 13G	G08_018	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03551	135.6180	DBL-WICH-THI	
FDNS	01ALL		0 13G	G08_018	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03567	126.6283	DBL-WICH-THI	
FDNS	03G08_018		0 13G	G08_018	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03559	121.4212	DBL-WICH-THI	
FDNS	3		0 13G	G08_018	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03561	118.1205	DBL-WICH-THI	
FDNS	1		0 13G	G08_018	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03570	112.3590	DBL-WICH-THI	
FDNS	02ALL		0 13G	G08_018	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03552	106.0786	DBL-WICH-THI	
FDNS	05ALL		0 13G	G08_018	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03549	100.0000	DBL-WICH-THI	
FDNS	03ALL		0 13G	G08_018	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.03658	128.6388	DBL-SPRVL-CL	
FDNS	03ALL		0 13G	G08_018	TO->FROM	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	95.6	0.03658	128.4535	DBL-THIS-CLR	
FDNS	01ALL		0 13G	G08_018	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04688	107.4232	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	01ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04688	128.5665	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04616	117.1564	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	1		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04675	114.1737	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04626	113.8474	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04793	109.5206	DBL-WICH-THI	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03539	107.8803	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03545	106.4411	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	2		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04622	106.2648	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	03G08_018		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04630	106.2554	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03349	104.8558	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03349	104.8558	SPP-SWPS-02A	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03349	104.8504	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04616	104.4680	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	3		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04632	103.4741	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	05ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04611	103.4589	NORTHWEST - TATONGA7 345.00 345KV CKT 1	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03352	102.6252	SPP-SWPS-03	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04788	102.4943	DBL-WICH-THI	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03349	101.6174	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03758	101.5695	IODINE - WOODWARD EHV 138KV CKT 1	
FDNS	03ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04626	101.1615	TATONGA7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1	
FDNS	02ALL		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03758	100.5637	DEWEY - IODINE 138KV CKT 1	
FDNS	03G08_018		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03548	100.5524	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03G08_018		0 13G	G08_018	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04800	100.2530	DBL-WICH-THI	
FDNS	03ALL		0 13G	G08_018	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03551	124.6872	DBL-WICH-THI	
FDNS	01ALL		0 13G	G08_018	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03567	115.5990	DBL-WICH-THI	
FDNS	03G08_018		0 13G	G08_018	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03559	110.4424	DBL-WICH-THI	
FDNS	3		0 13G	G08_018	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03561	107.1432	DBL-WICH-THI	
FDNS	1		0 13G	G08_018	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03570	101.2769	DBL-WICH-THI	
FDNS	03ALL		0 13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03658	189.0378	DBL-SPRVL-CL	
FDNS	03ALL		0 13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03658	188.0532	DBL-THIS-CLR	
FDNS	03ALL		0 13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03658	183.9729	DBL-SPRVL-CL	
FDNS	03ALL		0 13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03658	183.2164	DBL-THIS-CLR	
FDNS	03G08_018		0 13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03673	144.5579	DBL-SPRVL-CL	
FDNS	03G08_018		0 13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03673	143.5914	DBL-THIS-CLR	

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING		CONTINGENCY
									(%MVA)		
FDNS	03G08_018	0	13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03673	141.6535	DBL-SPRVL-CL	
FDNS	03G08_018	0	13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03673	140.8544	DBL-THIS-CLR	
FDNS	3	0	13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03673	140.4745	DBL-SPRVL-CL	
FDNS	3	0	13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03673	139.6318	DBL-THIS-CLR	
FDNS	3	0	13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03673	137.7228	DBL-SPRVL-CL	
FDNS	3	0	13G	G08_018	FROM->TO	MEDICINE LODGE (MED-LDG4) 138/115/2.72KV TRANSFORMER CKT 1	65	0.03673	137.0490	DBL-THIS-CLR	
FDNS	01ALL	0	13G	G08_019	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.10067	107.4232	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10067	128.5665	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01G08_019	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10057	126.0284	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.09994	117.1564	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	1	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10053	114.1737	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	03ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10004	113.8474	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06148	112.8313	DBL-THIS-WWR	
FDNS	03ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04825	109.5206	DBL-WICH-THI	
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04161	107.8803	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	03ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04167	106.4411	WOODWARD (WOODWRD2) 138/69/13.2KV TRANSFORMER CKT 1	
FDNS	2	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10000	106.2648	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	01G08_019	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06147	105.1963	DBL-THIS-WWR	
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	104.8558	ELK CITY 230KV - SWEETWATER 230KV CKT 1	
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	104.8558	SPP-SWPS-02A	
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	104.8504	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.06104	104.7210	DBL-THIS-WWR	
FDNS	3	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.10011	103.4741	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	05ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.09989	103.4589	NORTHWEST - TATONGA7	345.00 345KV CKT 1
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03558	102.6252	SPP-SWPS-03	
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04820	102.4943	DBL-WICH-THI	
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03559	101.6174	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1	
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04340	101.5695	IODINE - WOODWARD EHV 138KV CKT 1	
FDNS	02ALL	0	13G	G08_019	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04340	100.5637	DEWEY - IODINE 138KV CKT 1	

Appendix I:



I: Stability Analysis



SPP

*Southwest
Power Pool*

***Impact Study
For
Impact Cluster Study
ICS-2008-001-5***

***SPP Generation
Interconnection Studies***

ICS-2008-001-5

January 2013

Executive Summary

A transient stability study has been performed by Southwest Power Pool (SPP) to evaluate the interconnection requests in the Impact Cluster Study (ICS-2008-001-5) for Group 2 in the Texas Panhandle. For electrical impacts, GEN-2008-018 has been included as part of the Group 2 analysis.

The study evaluates three (3) Interconnection Requests in the Texas Panhandle and southwest Kansas. The interconnection requests include GEN-2007-046, GEN-2007-057, and GEN-2008-018.

The results of a stability analysis determined that for the addition of the ICS-2008-001 interconnection requests, the transmission system was found to remain stable for both summer and winter peak conditions.

The power factor analysis indicated that all ICS-2008-001 interconnection requests will be required to maintain 95% lagging (producing vars) and 95% leading (absorbing vars) power factor at the point of interconnection. Additionally, GEN-2008-018 is required to install capacitor banks (40Mvar) and reactor banks (40Mvar) in addition to its generator reactive capability.

Should any previously queued projects that were included in this study withdraw from the queue, then this System Impact Study may have to be revised to determine the impacts of this Interconnection Customer's project on transmission facilities.

1.0 Introduction

A transient stability study has been performed by Southwest Power Pool (SPP) to evaluate the interconnection requests in the Impact Cluster Study (ICS-2008-001-5) for Group 2 in the Texas Panhandle. For electrical impacts, GEN-2008-018 has been included as part of the Group 2 analysis.

The study evaluates three (3) Interconnection Requests in the Texas Panhandle and southwest Kansas. The interconnection requests include GEN-2007-046, GEN-2007-057, and GEN-2008-018.

Two seasonal base cases were used in the study to analyze the stability impacts of the proposed generation facilities. A 2014 summer peak case and a 2014 winter peak case were modified to include the prior queued projects shown in Table 2.

In this study SPP monitored the generators and transmission lines in Areas 520, 524, 525, 526, 531, 534 and 536.

2.0 Purpose

The purpose of this Impact Cluster Study (ICS) is to evaluate the impact of the proposed interconnection on the reliability of the Transmission System. Table 1 below lists the requests that were analyzed in this study.

Table 1: DISIS-2011-002 Interconnection Request Table

Request	Size (MW)	Wind Turbine Model	Point of Interconnection
GEN-2007-046	200	G.E. 1.5MW	Hitchland 115kV
GEN-2007-057	34.5	G.E. 1.5MW	Moore County 115kV
GEN-2008-018	405	G.E. 1.7MW	Finney 345kV

Should any of the previously queued projects listed in Table 2 withdraw, then this System Impact Study may require a re-study of this request at the expense of the customer.

Table 2: ICS-2008-001 Prior Queued Request Table

Request	Size (MW)	Wind Turbine Model	Point of Interconnection
GEN-2002-008	240	G.E. 1.5MW	Hitchland 345kV
GEN-2002-009	80	Suzlon	Hansford 115kV
GEN-2003-020	160	G.E. 1.5MW	Carson County 115kV
GEN-2006-020S	20	DeWind	Frisco 115kV
GEN-2006-044	370	DeWind	Hitchland 345kV

3.0 Facilities

3.1 Interconnection Facility

GEN-2007-046

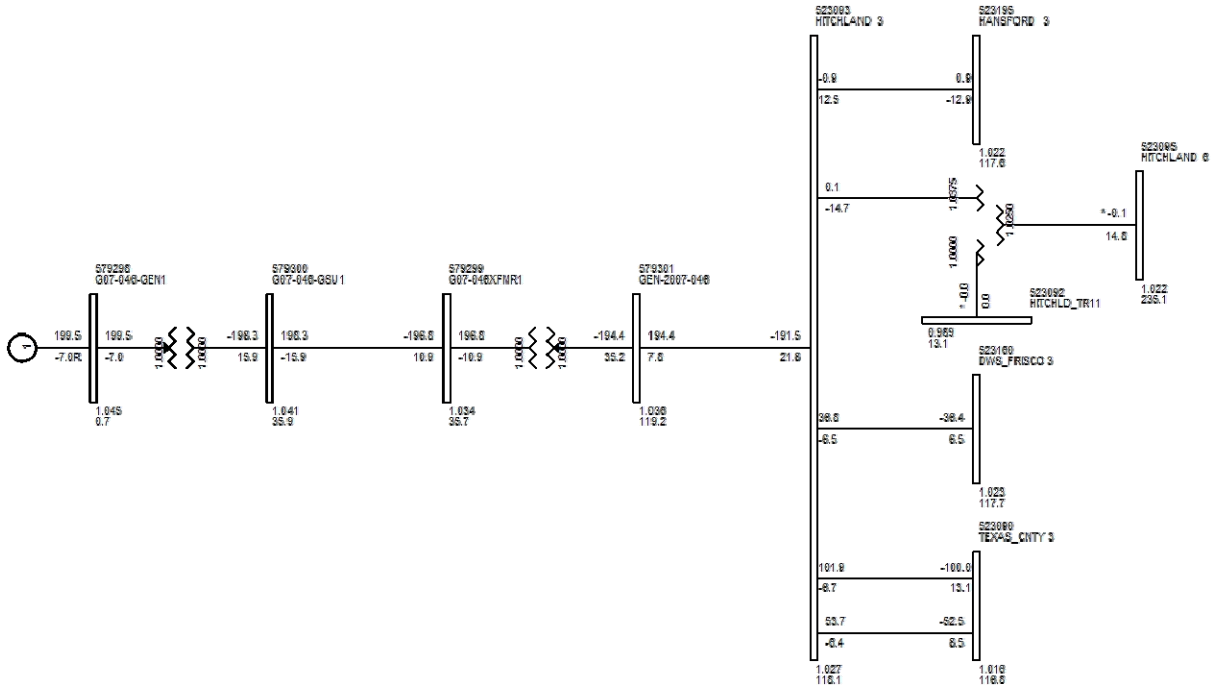


Figure 1: GEN-2007-046 Facility One-line Diagram

GEN-2007-057

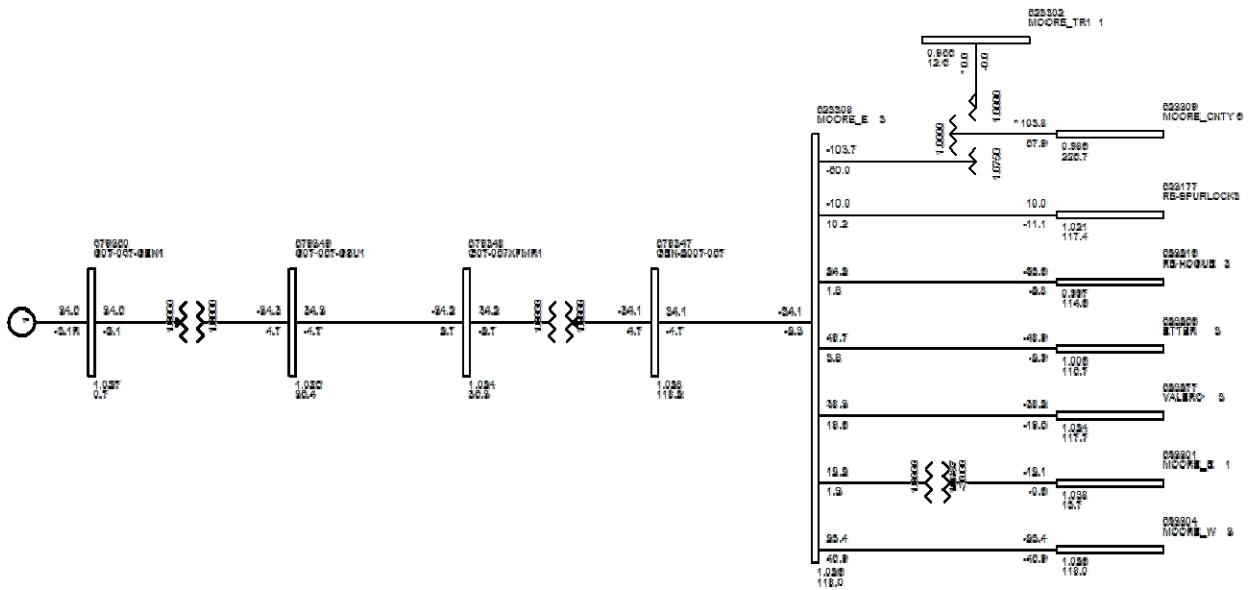


Figure 2: GEN-2007-057 Facility One-line Diagram

GEN-2008-018

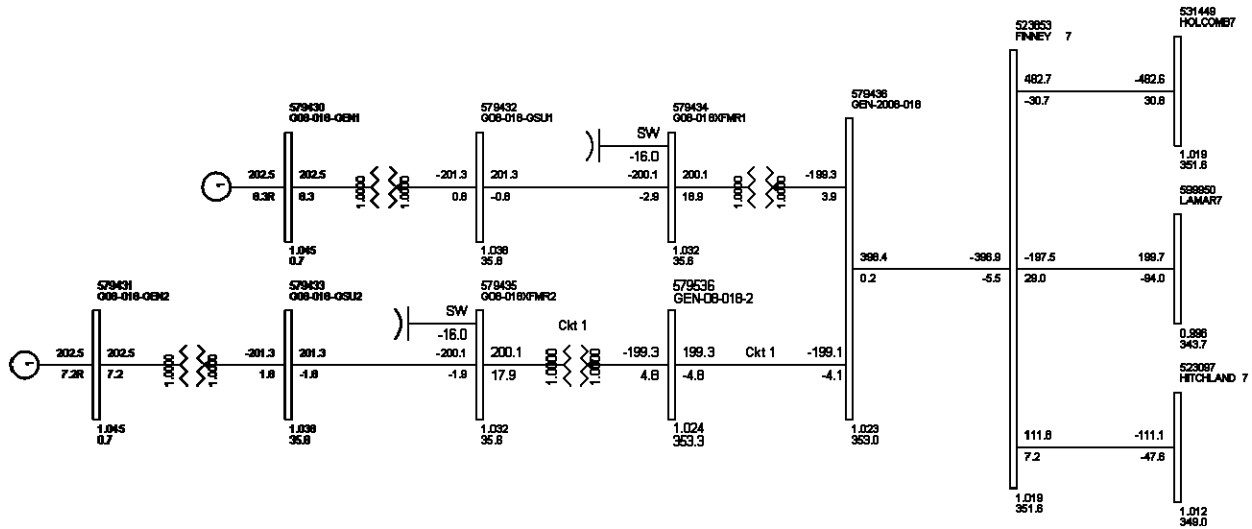


Figure 3: GEN-2008-018 Facility One-line Diagram

4.0 Stability Study Analysis

Nineteen (19) contingencies were considered for the transient stability simulations. These contingencies included three phase faults and single phase line faults at locations defined by SPP. Single-phase line faults were simulated by applying a fault impedance to the positive sequence network at the fault location to represent the effect of the negative and zero sequence networks on the positive sequence network. The fault impedance was computed to give a positive sequence voltage at the specified fault location of approximately 60% of pre-fault voltage. This method is in agreement with SPP current practice. The faults that were defined and simulated are listed in Table 3 below. The faults were simulated on both the summer peak and the winter peak models.

Table 3: Contingency List

Cont. No.	Cont. Name	Description
1	FLT_01_HITCHLAN D7_POTTERCO7_345 kV_3PH	3 phase fault on the Hitchland (523097) to Potter County (523961) 345kV line, near Hitchland. a. Apply fault at the Hitchland 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line.
2	FLT_02_HITCHLAN D7_POTTERCO7_345 kV_1PH	<i>Single phase fault and sequence like previous</i>
3	FLT_03_POTTERCO 7_HITCHLAND7_345 kV_3PH	3 phase fault on the Potter County (523961) to Hitchland (523097) 345kV line, near Potter Co. a. Apply fault at the Potter Co. 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line.
4	FLT_04_POTTERCO 7_HITCHLAND7I_34 5kV_1PH	<i>Single phase fault and sequence like previous</i>

5	FLT_05_POTTERCO 7_POTTERCO6_345_230kV_3PH	3 phase fault on the Potter County 345kV (523961) to 230kV (523959) transformer, near the 345kV bus. a. Apply fault at the Potter Co. 345kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
6	FLT_06_POTTERCO 6_MOORECO6_230kV_3PH	3 phase fault on the Potter County (523959) to Moore County (523309) 230kV line, near Potter Co. a. Apply fault at the Potter Co. 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
7	FLT_07_POTTERCO 6_MOORECO6_230kV_1PH	<i>Single phase fault and sequence like previous</i>
8	FLT_08_POTTERCO 6_HARRNGEST6_230kV_3PH	3 phase fault on the Potter County (523959) to Harrington East (523979) 230kV line, near Potter Co. a. Apply fault at the Potter Co. 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
9	FLT_09_POTTERCO 6_HARRNGEST6_230kV_1PH	<i>Single phase fault and sequence like previous</i>
10	FLT_10_POTTERCO 6_BUSHLND6_230kV_3PH	3 phase fault on the Potter County (523959) to Bushland (524267) 230kV line, near Potter Co. a. Apply fault at the Potter Co. 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
11	FLT_11_POTTERCO 6_BUSHLND6_230kV_1PH	<i>Single phase fault and sequence like previous</i>
12	FLT_12_POTTERCO 6_PLANTX6_230kV_3PH	3 phase fault on the Potter County (523959) to Plant X (525481) 230kV line, near Potter Co. a. Apply fault at the Potter Co. 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
13	FLT_13_GRAPEVIN E6_NICHOLS6_230kV_3PH	3 phase fault on the Grapevine (523771) to Nichols (524044) 230kV line, near Grapevine. a. Apply fault at the Grapevine 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
14	FLT_14_GRAPEVIN E6_NICHOLS6_230kV_1PH	<i>Single phase fault and sequence like previous</i>
15	FLT_15_HITCHLAN D7_FINNEY7_345kV_3PH	3 phase fault on the Hitchland (523097) to Finney (523853) 345kV line, near Hitchland. a. Apply fault at the Hitchland 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line.
16	FLT_16_HITCHLAN D7_FINNEY7_345kV_1PH	<i>Single phase fault and sequence like previous</i>

17	FLT_17_HITCHLAN D7_HITCHLAND6_3 45_230kV_3PH	3 phase fault on the Hitchland 345kV (523097) to 230kV (523095) transformer, near the 345kV bus. a. Apply fault at the Hitchland 345kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.
18	FLT_18_FINNEY7_H OLCOMB_345kV_3P H	3 phase fault on the Finney (523853) to Holcomb (531449) 345kV line, near Finney. a. Apply fault at the Finney 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line.
19	FLT_19_FINNEY7_H OLCOMB_345kV_1P H	Single phase fault and sequence like previous

5.0 Simulation Results

All faults were run for both summer and winter cases, no tripping occurred in this study.

Table 4 summarizes the results for all faults. Complete sets of plots for summer and winter cases are available on request.

Based on the dynamic results, with all network upgrades in service, all the requests in Group 2 did not cause any stability problems and remained stable for all faults studied, with the addition the proposed upgrades.

Table 4: Contingency Simulation Results

Cont. No.	Cont. Name	Description	Summer	Winter
1	FLT_01_HITCHLA ND7_POTTERCO7_ 345kV_3PH	3 phase fault on the Hitchland (523097) to Potter County (523961) 345kV line, near Hitchland. a. Apply fault at the Hitchland 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line.	STABLE	STABLE
2	FLT_02_HITCHLA ND7_POTTERCO7_ 345kV_1PH	<i>Single phase fault and sequence like previous</i>	STABLE	STABLE
3	FLT_03_POTTERC O7_HITCHLAND7_ 345kV_3PH	3 phase fault on the Potter County (523961) to Hitchland (523097) 345kV line, near Potter Co. a. Apply fault at the Potter Co. 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line.	STABLE	STABLE
4	FLT_04_POTTERC O7_HITCHLAND7I _345kV_1PH	<i>Single phase fault and sequence like previous</i>	STABLE	STABLE

5	FLT_05_POTTERC O7_POTTERCO6_3 45_230kV_3PH	3 phase fault on the Potter County 345kV (523961) to 230kV (523959) transformer, near the 345kV bus. a. Apply fault at the Potter Co. 345kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.	STABLE	STABLE
6	FLT_06_POTTERC O6_MOORECO6_23 0kV_3PH	3 phase fault on the Potter County (523959) to Moore County (523309) 230kV line, near Potter Co. a. Apply fault at the Potter Co. 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	STABLE	STABLE
7	FLT_07_POTTERC O6_MOORECO6_23 0kV_1PH	<i>Single phase fault and sequence like previous</i>	STABLE	STABLE
8	FLT_08_POTTERC O6_HARRNGEST6_ 230kV_3PH	3 phase fault on the Potter County (523959) to Harrington East (523979) 230kV line, near Potter Co. a. Apply fault at the Potter Co. 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	STABLE	STABLE
9	FLT_09_POTTERC O6_HARRNGEST6_ 230kV_1PH	<i>Single phase fault and sequence like previous</i>	STABLE	STABLE
10	FLT_10_POTTERC O6_BUSHLND6_23 0kV_3PH	3 phase fault on the Potter County (523959) to Bushland (524267) 230kV line, near Potter Co. a. Apply fault at the Potter Co. 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	STABLE	STABLE
11	FLT_11_POTTERC O6_BUSHLND6_23 0kV_1PH	<i>Single phase fault and sequence like previous</i>	STABLE	STABLE
12	FLT_12_POTTERC O6_PLANTX6_230k V_3PH	3 phase fault on the Potter County (523959) to Plant X (525481) 230kV line, near Potter Co. a. Apply fault at the Potter Co. 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	STABLE	STABLE

13	FLT_13_GRAPEVIN E6_NICHOLS6_230 kV_3PH	3 phase fault on the Grapevine (523771) to Nichols (524044) 230kV line, near Grapevine. a. Apply fault at the Grapevine 230kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.	STABLE	STABLE
14	FLT_14_GRAPEVIN E6_NICHOLS6_230 kV_1PH	<i>Single phase fault and sequence like previous</i>	STABLE	STABLE
15	FLT_15_HITCHLA ND7_FINNEY7 _345kV_3PH	3 phase fault on the Hitchland (523097) to Finney (523853) 345kV line, near Hitchland. a. Apply fault at the Hitchland 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line.	STABLE	STABLE
16	FLT_16_HITCHLA ND7_FINNEY7_ 345kV_1PH	Single phase fault and sequence like previous	STABLE	STABLE
17	FLT_17_HITCHLA ND7_HITCHLAND6 _345_230kV_3PH	3 phase fault on the Hitchland 345kV (523097) to 230kV (523095) transformer, near the 345kV bus. a. Apply fault at the Hitchland 345kV bus. b. Clear fault after 5 cycles by tripping the faulted transformer.	STABLE	STABLE
18	FLT_18_FINNEY7_ HOLCOMB_345kV_ 3PH	3 phase fault on the Finney (523853) to Holcomb (531449) 345kV line, near Finney. a. Apply fault at the Finney 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line.	STABLE	STABLE
19	FLT_19_FINNEY7_ HOLCOMB_345kV_ 1PH	Single phase fault and sequence like previous	STABLE	STABLE

6.0 Power Factor Analysis

A power factor analysis was performed for each wind farm request by modeling a VAR generator at the high voltage bus of each interconnection request. The VAR generator was set to hold a voltage schedule of at least 1.00 per unit at the point of interconnection for each request. The analysis was done for both the summer and winter cases. The contingencies and results are shown in Tables 5, 6, and 7.

GEN-2007-046/GEN-2007-057. The power factor analysis indicates the GEN-2007-046 and GEN-2007-057 interconnection request will be required to maintain 0.95 lagging (supplying vars) and 0.95 leading (absorbing vars) power factors at the point of interconnection.

GEN-2008-018. The power factor analysis indicates that GEN-2008-018 interconnection request will be required to maintain a 0.95 lagging (supplying vars) and 0.95 leading (absorbing vars) power factors at the point of interconnection.

Due to the size of the GEN-2008-018 interconnection request and its location on the 345kV system at Finney, additional analysis was performed to determine how the power factor requirements would be satisfied. Analysis of the collector system of GEN-2008-018 indicates that additional capacitor banks will be required to provide 95% power factor at the point of interconnection. The analysis has determined that a minimum of 40Mvars of capacitor banks is required. The capacitors should be installed at 34.5kV and in steps no greater than more than 10Mvars each. For power flows with the capacitors in service see Figure 4 below.

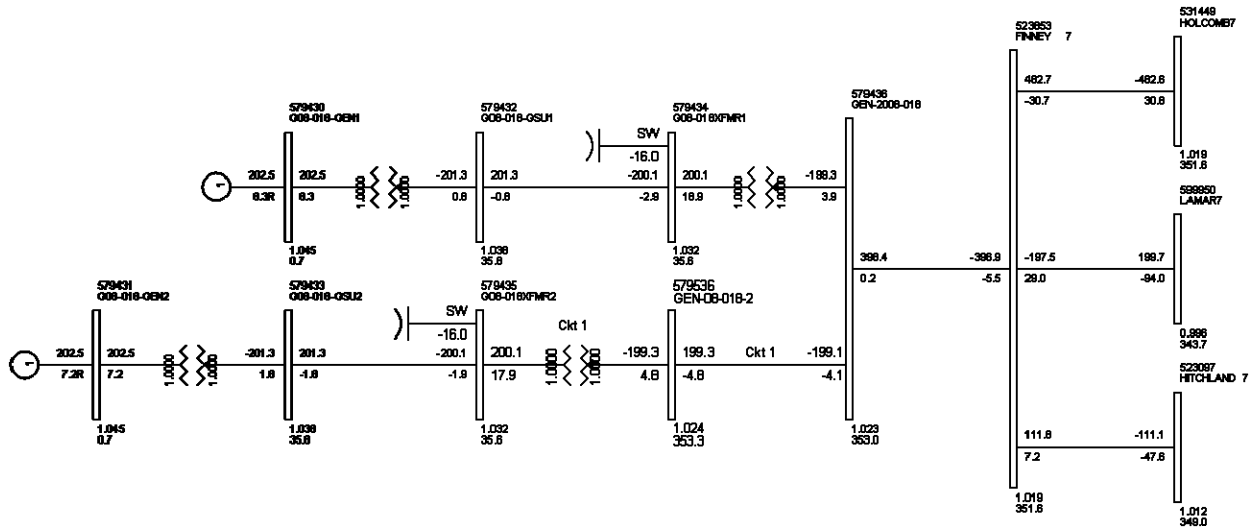


Figure 4: GEN-2008-018 Facility One-line Diagram with Capacitors

Further analysis of the GEN-2008-018 interconnection request collector system indicates that with GEN-2008-018 at low generation that potential high voltages will occur when the collector system is providing excess reactive power flow to the point of interconnection. The interconnection customer will be required to provide a minimum of 40Mvars of reactor banks on its collector system to control these voltages. For power flows with the reactors see Figure 5 below.

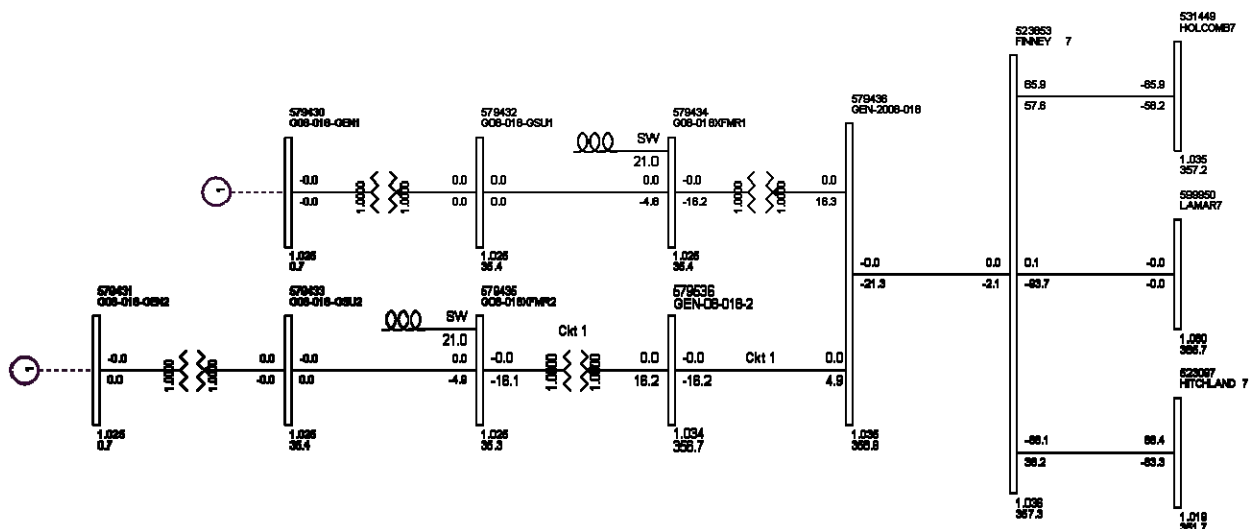


Figure 5: GEN-2008-018 Facility One-line Diagram with Reactors

Table 5: GEN-2007-046 Power Factor Table

CONTINGENCY	GEN-2007-046							
	MW (S)	MVAR (S)	PF (S)		MW (W)	MVAR (W)	PF (W)	
No contingency	199.5	-19	0.9955	LEAD	199.5	-19	0.9955	LEAD
Hitchland (523097) to Potter Co. (523961) 345kV Ckt. 1	199.5	-18.9	0.9955	LEAD	199.5	-18.9	0.9955	LEAD
Potter Co. (523961) to Hitchland (523097) 345kV Ckt. 1	199.5	-18.9	0.9955	LEAD	199.5	-18.9	0.9955	LEAD
Potter Co. 345kV (523961) to Potter Co. 230kV (523959) Transformer Ckt. 1	199.5	-19	0.9955	LEAD	199.5	-19	0.9955	LEAD
Potter Co. (523959) to Moore Co. (523309) 230kV Ckt. 1	199.5	-11.6	0.9983	LEAD	199.5	-11.6	0.9983	LEAD
Potter Co. (523959) to Harrington E. (523979) 230kV Ckt. 1	199.5	-19	0.9955	LEAD	199.5	-19	0.9955	LEAD
Potter Co. (523959) to Bushland (524267) 230kV Ckt. 1	199.5	-17.8	0.9960	LEAD	199.5	-17.8	0.9960	LEAD
Potter Co. (523959) to S Randall Co. (560002) 230kV Ckt. 1	199.5	-18.2	0.9959	LEAD	199.5	-18.2	0.9959	LEAD
Grapevine (523771) to Nichols (524044) 230kV Ckt. 1	199.5	-15.6	0.9970	LEAD	199.5	-15.6	0.9970	LEAD
Hitchland (523097) to Finney (523853) 345kV Ckt. 1	199.5	-15.7	0.9969	LEAD	199.5	-15.6	0.9970	LEAD
Hitchland 345kV (523097) to Hitchland 230kV (523095) Transformer Ckt. 1	199.5	-19	0.9955	LEAD	199.5	-19	0.9955	LEAD
Finney (523853) to Holcomb (531449) 345kV Ckt. 1	199.5	31.6	0.9877	LAG	199.5	31.6	0.9877	LAG

(S) - Summer Case

(W) - Winter Case

Lowest leading power factor

Lowest lagging power factor

Table 6: GEN-2007-057 Power Factor Table

Bus 523093 (POI) voltage: 1.02207 PU (S) / 1.02205 PU (W)	GEN-2007-057								
	CONTINGENCY	MW (S)	MVAR (S)	PF (S)		MW (W)	MVAR (W)	PF (W)	
No contingency	34.5	-8.8	0.9690	LEAD		34.5	-8.8	0.9690	LEAD
Hitchland (523097) to Potter Co. (523961) 345kV Ckt. 1	34.5	-7.7	0.9760	LEAD		34.5	-7.8	0.9754	LEAD
Potter Co. (523961) to Hitchland (523097) 345kV Ckt. 1	34.5	-7.7	0.9760	LEAD		34.5	-7.8	0.9754	LEAD
Potter Co. 345kV (523961) to Potter Co. 230kV (523959) Transformer Ckt. 1	34.5	-8.8	0.9690	LEAD		34.5	-8.8	0.9690	LEAD
Potter Co. (523959) to Moore Co. (523309) 230kV Ckt. 1	34.5	13.3	0.9331	LAG		34.5	13.3	0.9331	LAG
Potter Co. (523959) to Harrington E. (523979) 230kV Ckt. 1	34.5	-8.5	0.9710	LEAD		34.5	-8.5	0.9710	LEAD
Potter Co. (523959) to Bushland (524267) 230kV Ckt. 1	34.5	-8.1	0.9735	LEAD		34.5	-8.1	0.9735	LEAD
Potter Co. (523959) to S Randall Co. (560002) 230kV Ckt. 1	34.5	-8.1	0.9735	LEAD		34.5	-8.1	0.9735	LEAD
Grapevine (523771) to Nichols (524044) 230kV Ckt. 1	34.5	-7.6	0.9766	LEAD		34.5	-7.6	0.9766	LEAD
Hitchland (523097) to Finney (523853) 345kV Ckt. 1	34.5	-7.6	0.9766	LEAD		34.5	-7.6	0.9766	LEAD
Hitchland 345kV (523097) to Hitchland 230kV (523095) Transformer Ckt. 1	34.5	-8.8	0.9690	LEAD		34.5	-8.8	0.9690	LEAD
Finney (523853) to Holcomb (531449) 345kV Ckt. 1	34.5	12.9	0.9367	LAG		34.5	12.9	0.9367	LAG

(S) - Summer Case

(W) - Winter Case

Lowest leading power factor

Lowest lagging power factor

Table 7: GEN-2008-018 Power Factor Table

Bus 523853 (POI) voltage: 1.02500 PU (S) / 1.02499 PU (W)	GEN-2008-018							
	CONTINGENCY	MW (S)	MVAR (S)	PF (S)		MW (W)	MVAR (W)	PF (W)
No contingency	405	20.9	0.9987	LAG	405	20.3	0.9987	LAG
Hitchland (523097) to Potter Co. (523961) 345kV Ckt. 1	405	23	0.9984	LAG	405	22.3	0.9985	LAG
Potter Co. (523961) to Hitchland (523097) 345kV Ckt. 1	405	23	0.9984	LAG	405	22.3	0.9985	LAG
Potter Co. 345kV (523961) to Potter Co. 230kV (523959) Transformer Ckt. 1	405	20.9	0.9987	LAG	405	20.3	0.9987	LAG
Potter Co. (523959) to Moore Co. (523309) 230kV Ckt. 1	405	23.6	0.9983	LAG	405	23	0.9984	LAG
Potter Co. (523959) to Harrington E. (523979) 230kV Ckt. 1	405	20.3	0.9987	LAG	405	19.7	0.9988	LAG
Potter Co. (523959) to Bushland (524267) 230kV Ckt. 1	405	22.8	0.9984	LAG	405	22.1	0.9985	LAG
Potter Co. (523959) to S Randall Co. (560002) 230kV Ckt. 1	405	22	0.9985	LAG	405	21.3	0.9986	LAG
Grapevine (523771) to Nichols (524044) 230kV Ckt. 1	405	25.5	0.9980	LAG	405	24.8	0.9981	LAG
Hitchland (523097) to Finney (523853) 345kV Ckt. 1	405	52.4	0.9917	LAG	405	51.8	0.9919	LAG
Hitchland 345kV (523097) to Hitchland 230kV (523095) Transformer Ckt. 1	405	20.9	0.9987	LAG	405	20.3	0.9987	LAG
Finney (523853) to Holcomb (531449) 345kV Ckt. 1	405	113.6	0.9628	LAG	405	113.5	0.9629	LAG

(S) - Summer Case

(W) - Winter Case

Lowest leading power factor

Lowest lagging power factor

7.0 Conclusion

A transient stability study has been performed by Southwest Power Pool (SPP) to evaluate the interconnection requests in the Impact Cluster Study (ICS-2008-001) for Group 2 in the Texas Panhandle area.

The results of a stability analysis determined that for the addition of the ICS-2008-001 interconnection requests, the transmission system was found to remain stable for both summer and winter peak conditions with all required network upgrades in service.

The power factor analysis indicated that all ICS-2008-001 interconnection requests will be required to maintain 95% lagging (producing vars) and 95% leading (absorbing vars) power factor at the point of interconnection. The final power factor analyses are shown in Tables 5 and 6. In addition, GEN-2008-018 shall include additional capacitor banks (40Mvar), and additional reactor banks (40Mvar) to the reactive capability of the GE generators.

If any previously queued projects that were included in this study drop out, then this System Impact Study may have to be revised to determine the impacts of this Interconnection Customer's project on transmission facilities. In accordance with FERC and SPP procedures, the study cost for restudy shall be borne by the Interconnection Customer.