Definitive Interconnection System Impact Study for Generation Interconnection Requests

(DISIS-2012-002-1)

May 2013

Generator Interconnection

SPP Southwest Power Pool

Revision History

Date	Author	Change Description
01/31/2013	SPP	Report Issued (DISIS-2012-002)
2/8/2013	SPP	Report Re-Issued for corrections
5/16/2013	SPP	Account for Withdrawn Projects, Report Re-Posted (DISIS-2012-002-1)

Executive Summary

Generation Interconnection customers have requested a Definitive Interconnection System Impact Study (DISIS) under the Generation Interconnection Procedures (GIP) in the Southwest Power Pool Open Access Transmission Tariff (OATT). The Interconnection Customers' requests have been clustered together for the following System Impact Cluster Study window which closed September 30, 2012. The customers will be referred to in this study as the DISIS-2012-002 Interconnection Customers. This System Impact Study analyzes the interconnecting of multiple generation interconnection requests associated with new generation totaling approximately 2,956.8 MW of new generation which would be located within the transmission systems of American Electric Cooperative Corporation (AEPW), Lincoln Electric System (LES), Midwest Energy Inc. (MIDW), Nebraska Public Power District (NPPD), Oklahoma Gas and Electric (OKGE), Sunflower Electric Power Corporation/Mid-Kansas Electric Power LLC (SUNC)/(MKEC), Southwestern Public Service (SPS), Westar Energy Inc. (WERE), and Western Farmers Electric Cooperative (WFEC). The various generation interconnection requests have differing proposed in-service dates[1]. The generation interconnection requests included in this System Impact Cluster Study are listed in Appendix A by their queue number, amount, requested interconnection service, area, requested interconnection point, proposed interconnection point, and the requested in-service date.

Power flow analysis has indicated that for the power flow cases studied, 2,956.8 MW of nameplate generation may be interconnected with transmission system reinforcements within the SPP transmission system. Dynamic stability and power factor analysis has determined the need for reactive compensation in accordance with FERC Order #661A for wind farm interconnection requests and those requirements are listed for each interconnection request within the contents of this report. Dynamic stability analysis has determined that the transmission system will remain stable with the assigned Network Upgrades and necessary reactive compensation requirements.

The total estimated minimum cost for interconnecting the DISIS-2012-002 interconnection customers is $478,532,651.00. These costs are shown in Appendix E and F. Interconnection Service to DISIS-2012-002 interconnection customers is also contingent upon higher queued customers paying for certain required network upgrades. **The in-service date for the DISIS customers will be deferred until the construction of these network upgrades can be completed.**

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

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

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

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

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Introduction

Pursuant to the Southwest Power Pool (SPP) Open Access Transmission Tariff (OATT), SPP has conducted this Definitive Interconnection System Impact Study (DISIS) for certain generation interconnection requests in the SPP Generation Interconnection Queue. These interconnection requests have been clustered together for the following System Impact Study window which closed September 30, 2012. The customers will be referred to in this study as the DISIS-2012-002 Interconnection Customers. This DISIS analyzes the interconnecting of multiple generation interconnection requests associated with new generation totaling 2,956.8 MW which would be located within the transmission systems of American Electric Cooperative Corporation (AEPW), Lincoln Electric System (LES), Midwest Energy Inc. (MIDW), Nebraska Public Power District (NPPD), Oklahoma Gas and Electric (OKGE), Sunflower Electric Power Corporation/Mid-Kansas Electric Power LLC (SUNC)/(MKEC), Southwestern Public Service (SPS), Westar Energy Inc. (WERE), and Western Farmers Electric Cooperative (WFEC). The various generation interconnection requests have differing proposed in-service dates[2]. The generation interconnection requests included in this System Impact Study are listed in Appendix A by their queue number, amount, requested interconnection service, area, requested interconnection point, proposed interconnection point, and the requested in-service date.

The primary objective of this DISIS 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 required interconnection facilities, Network Upgrades and other Direct Assignment Facilities needed to accept power into the grid at each specific interconnection receipt point.

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

Model Development

Interconnection Requests Included in the Cluster

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

Affected System Interconnection Request

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

Previously Queued Interconnection Requests

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

Development of Base Cases

Power Flow

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

Dynamic Stability

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

Base Case Upgrades

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

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

- Hitchland 230/115kV area projects[3]:
  - Hitchland – Ochiltree 230kV Project, scheduled for 2/1/2013 in-service
- Balanced Portfolio Projects[4]:
  - 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
  - Tap Stillwell – Swissvale 345kV line at West Gardner, scheduled for 12/31/2012 in-service
- Priority Projects[5]:
  - Hitchland – Woodward double circuit 345kV, scheduled for 6/30/2014 in-service
    - Hitchland 345/230kV circuit #2 autotransformer
  - Woodward – Thistle double circuit 345kV, scheduled for 12/31/2014 in-service
  - Spearville – Clark double circuit 345kV, scheduled for 12/31/2014 in-service
  - Clark – Thistle double circuit 345kV, scheduled for 12/31/2014 in-service
  - Thistle – Wichita double circuit 345kV, scheduled for 12/31/2014 in-service
  - Thistle 345/138kV autotransformer, scheduled for 12/31/2014 in-service
  - Thistle – Flat Ridge 138kV, scheduled for 12/31/2014 in-service
- Various MKEC Transmission System Upgrades[6]
  - Harper – Flat Ridge 138kV rebuild, scheduled for 6/15/2013 in-service
  - Flat Ridge – Medicine Lodge 138kV rebuild, scheduled for 12/31/2013 in-service
  - Pratt – Medicine Lodge 115kV rebuild, scheduled for 6/15/2014 in-service
  - Medicine Lodge 138/115kV autotransformer replacement, scheduled for 6/1/2013 in-service
- Woodward (OKGE) – Woodward (WFEC) 69kV rebuild, scheduled for 12/1/2013 in-service[7]
- Sheldon – SW7th and Pleasant Hill 115kV circuit #2 rebuild, scheduled for 5/15/2013 in-service[8]

[3] SPP Regional Reliability Projects identified in 2007 STEP. As of the writing of this report, SPP Project Tracking TAGIT shows some of these project's in-service dates have been delayed from the original 2010/2011 in-service dates.
[4] Notice to Construct (NTC) issued June 2009.
[5] Notice to Construct (NTC) issued June 2010.
[6] SPP Transmission Service Projects identified in SPP-2007-AG3-AFS-9.
[7] SPP Regional Reliability Project. Per SPP-NTC-20003.
[8] SPP Regional Reliability 2012 ITPNT Project. Per SPP-NTC-200171.

Contingent Upgrades

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

- Upgrades assigned to ICS-2008-001 Interconnection Customers
  - Line Traps at Amarillo South – Swisher 230kV
  - Finney-Holcomb 345kV circuit #2
- Upgrades assigned to DISIS-2009-001 Interconnection Customers:
  - Fort Dodge – North Fort Dodge – Spearville 115kV circuit #2
  - Albion – Petersburg – Neligh 115kV circuit #1 rerate (placed in-service in 2011)
  - Fort Randall – Madison County – Kelly 230kV circuit #1 rerate (320MVA)
  - Spearville 345/115kV autotransformer circuit #1
- Upgrades assigned to DISIS-2010-001 Interconnection Customers:
  - Post Rock 345/230kV circuit #2 autotransformer
  - South Hays – Hays Plant – Vine Street 115kV circuit #1 rebuild
  - Switch 2749 – Wildorado 69kV circuit # 1 rebuild
  - Washita – Gracemont 138kV circuit #2 (placed in-service in 2012)
- Upgrades assigned to DISIS-2010-002 Interconnection Customers:
  - Twin Church – Dixon County 230kV circuit #1 rerate (320MVA)
- Upgrades assigned to DISIS-2011-001 Interconnection Customers:
  - Beaver County – Buckner 345kV circuit #1 build
  - Beaver County 345kV Expansion (Tap & Tie Hitchland – Woodward circuit #2 into Beaver County 345kV)
  - Spearville – Mullergren – Reno double circuit 345kV build
  - Tatonga – Matthewson - Cimarron 345kV circuit #2 build
    - Tatonga terminal equipment upgrade (1792 MVA)
  - Rice County – Circle 230kV conversion
  - Rice County – Lyons 115kV rebuild
  - Rice County 230/115kV autotransformer
  - Lyons – Wheatland 115kV rerate (199 MVA)
  - Hoskins – Dixon County – Twin Church 230kV circuit #1 rerate
  - (NRIS only) Spearville – Mullergren 230kV circuit #1 rebuild
  - (NRIS only) Benton – Wichita 345kV circuit #1 rerate (1195MVA)
  - (NRIS only) FPL Switch – Woodward - Mooreland 138kV circuit #1 rebuild
  - (NRIS only) Glass Mountain – Mooreland 138kV rebuild
  - (NRIS only) Woodward – Woodward EHV 138kV rebuild
  - (NRIS only) Woodward 138/69kV auto replacement
  - (NRIS only) Woodward (OGE) – Woodward (WFEC) 69kV rebuild
- Upgrades assigned to DISIS-2011-002 interconnection Customers:
  - Amoco Wasson – Oxy Tap – Yoakum 230kV circuit #1 – replace line traps

- Harbine – Crete 115kV circuit #1 build
- Jones – Lubbock South 230kV circuit #2 - replace line traps
- Power System Stabilizers - Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)
- Mustang – Yoakum 230kV circuit #1 replace line traps
- SUB 967 - SUB 968 69kV circuit #1 replace terminal equipment
- (NRIS only) Allen – Lubbock South 115kV circuit #1 rebuild
- (NRIS only) Hydro Carbon Tap - Sub974 69kV circuit #1 rewire CT
- (NRIS only) Lubbock South 230/115kV Autotransformer build circuit #2
- (NRIS only) Nebraska City U Syracuse – SUB 970 circuit #1 replace terminal equipment
- (NRIS only) Benton – Wichita 345kV circuit #1 rerate (1195MVA)
- (NRIS only) Chisolm – Maize – Evans Energy Center 138kV circuit #1 rebuild
- (NRIS only) Duncan-Tosco 69kV rebuild
- (NRIS only) Comanche Tap-Tosco 69kV rebuild
- (NRIS only) Cimarron 345/138kV autotransformer #3
- (NRIS only) Evans North – Maize
- (NRIS only) Yoakum 230/115kV transformer #2

- Upgrades assigned to DISIS-2012-001 interconnection Customers:
  - Holcomb 345/115/13.8kV Transformer circuit #2 build
  - Denver North – Mustang 115kV circuit #1 rebuild
  - Denver South – Mustang 115kV circuit#1 rebuild

Potential Upgrades Not in the Base Case

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

Regional Groupings

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

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

Power Flow

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

allocated throughout the entire cluster. Other sensitivity analyses are also performed with all interconnection requests in each group being dispatched at 100% nameplate.

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

Dynamic Stability

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

Identification of Network Constraints

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

Determination of Cost Allocated Network Upgrades

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

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

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

  Request X Impact Factor on Upgrade Project 1 = PTDF(%)(X) * MW(X) = X1

  Request Y Impact Factor on Upgrade Project 1 = PTDF(%)(Y) * MW(Y) = Y1

  Request Z Impact Factor on Upgrade Project 1 = PTDF(%)(Z) * MW(Z) = Z1

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

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

- Repeat previous for each responsible GI request for each Project

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

Credits for Amounts Advanced for Network Upgrades

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

Required Interconnection Facilities

The requirement to interconnect the 2,956.8 MW of generation into the existing and proposed transmission systems in the affected areas of the SPP transmission footprint consist of the necessary cost allocated shared facilities listed in Appendix F by upgrade. The interconnection requirements for the cluster total $478,532,651.00. Interconnection Facilities specific to each generation interconnection request are listed in Appendix E. A preliminary one-line drawing for each generation interconnection request are listed in Appendix D.

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

Power Flow Analysis

Power Flow Analysis Methodology

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

Power Flow Analysis

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

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

Cluster Group 1 (Woodward Area)

In addition to the 4,935.8 MW of previously queued generation in the area, 512.1 MW of new interconnection service was studied. No new constraints for mitigation were found in this area.

Cluster Group 2 (Hitchland Area)

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

Cluster Group 3 (Spearville Area)

In addition to the 5,564.0 MW of previously queued generation in the area, 180.0 MW of new interconnection service was studied. Possible voltage collapse was identified in the Spearville area around Clark County and Thistle. After testing Static Var Compensator (SVC) options at Clark County and Thistle, it was determined that the best option for maintaining voltages throughout the entire area was to add 240 MVar cap bank at Reno 345kV and 15 MVar cap bank at Milan Tap 138kV.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
Non-Converged Contingency	1792	-	G12-11T 345.00 - POST ROCK 345KV CKT 1

Cluster Group 4 (NW Kansas Group)

In addition to the 2,089.3 MW of previously queued generation in the area, 100.0 MW of new interconnection service was studied. No new constraints were found in this area. Group 4 requests were found to contribute to possible voltage collapse conditions for requests in Group 3.

Cluster Group 5 (Amarillo Area)

In addition to the 1,332.6 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied. No new constraints were found in this area.

Cluster Group 6 (South Texas Panhandle/New Mexico)

In addition to the 2,591.5 MW of previously queued generation in the area, 922.27 MW of new interconnection service was studied. For the large amounts of generation that are requested for interconnection in this cluster, new 345kV reinforcements were identified for N-1 conditions for loss of the GEN-2012-038 interconnection request tap to the Border 345kV substation. To mitigate this constraint, a new 345kV line from GEN-2012-038 to Sweetwater to Gracemont was identified. Also thermal overloads are seen on the TUCO Interchange 345/230/13kV Transformer circuit #1 and #2 during N-1 contingency. To mitigate this constraint, a 3rd TUCO Interchange 345/230/23kV Transformer will be needed. Since the TUCO Substation is at full land capacity, an adjacent substation may be needed to house the new transformer.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	116.8204	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	114.4746	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1

Cluster Group 7 (Southwestern Oklahoma)

In addition to the 1,926.0 MW of previously queued generation in the area, 74.8 MW of new interconnection service was studied. Constraints for mitigation in this area include replacing CT on Lake Creek-Lone Wolf 69kV and rebuilding the 138kV line from the GEN-2012-029 tap to Hobart Jct 138kV.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
LAKE CREEK - LONEWOLF 69KV CKT 1	48	124.6657	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1

Cluster Group 8 (South Central Kansas/North Oklahoma)

In addition to the 1,986.3 MW of previously queued generation in the area, 847.8 MW of new interconnection service was studied. ERIS constraints were observed on the Remington – Fairfax 138kV line on the AECI/KAMO system. SPP will coordinate with AECI during the Facility Study to ascertain costs to change the design parameters of this line to 100 degrees °C ambient temperature. Additionally, AECI will be notified as an Affected System for this Interconnection Request and will be asked to evaluate its impacts on the AECI transmission system. For interconnection requests with NRIS, the following constraints were identified: Cimarron – Draper Lake 345kV Ckt 1.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	104.7309	SHIDLER - WEST PAWHUSKA 138KV CKT 1
4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	100.0000	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
CIMARRON - DRAPER LAKE 345KV CKT 1	717	103.842	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
CIMARRON - DRAPER LAKE 345KV CKT 1	717	101.4604	ARCADIA - SEMINOLE 345KV CKT 1

Cluster Group 9/10 (Nebraska)

In addition to the 1,693.6 MW of previously queued generation in the area, 319.8 MW of new interconnection service was studied. An additional 200 MW of requested generation on the Twin Church – Hoskins 230kV line will cause the need for additional 230kV transmission reinforcements in this area. To mitigate this constraint, a new 230kV line to the Western Area Power Administration (WAPA) is proposed. Further coordination with WAPA will occur in the Facility Study.

MONITORED ELEMENT	RATE B (MVA)	TC%LOADING (% MVA)	CONTINGENCY
G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	126.8127	G10-51T 230.00 - HOSKINS 230KV CKT 1
G10-51T 230.00 - HOSKINS 230KV CKT 1	320	126.8065	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	101.4531	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1

Cluster Group 12 (Northwest Arkansas)

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

Cluster Group 13 (Northwest Missouri)

In addition to the 585.6 MW of previously queued generation in the area, 0.0 MW of new interconnection service was studied. No new constraints were found in this area.

Cluster Group 14 (South Central Oklahoma)

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

Stability Analysis

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

Cluster Group 1 (Woodward Area)

There stability analysis was not performed again for this restudy. The original analysis in DISIS-2012-002 is still valid.

Cluster Group 2 (Hitchland Area)

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

Cluster Group 3 (Spearville Area)

Because of the withdrawal of GEN-2012-042, the Cluster Group 3 stability analysis was performed again for this restudy by Mitsubishi Electric Power Products, Inc (MEPPI). Stability analysis has determined that large flows Woodward-Tatonga 345kV line will cause potential voltage collapse situations for Group 3 projects. It was found that a capacitor bank at Reno and Milan will relieve most stability and voltage issues. Once the previously assigned upgrades are placed in service the transmission system will remain stable and low voltage ride through requirements are satisfied for the contingencies studied.

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

Power Factor Requirements:

Request	Size (MW)	Generator Model	Point of Interconnection	Power Factor Requirement at POI	
				Lagging (supplying)	Leading (absorbing)
GEN-2012-024	180	Vestas V112-3.0MW	Clark County	0.95	0.95

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

Cluster Group 4 (Northwest Kansas Area)

There stability analysis was not performed again for this restudy. The original analysis in DISIS-2012-002 is still valid.

Cluster Group 5 (Amarillo Area)

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

Cluster Group 6 (South Texas Panhandle/New Mexico)

There stability analysis was not performed again for this restudy. The original analysis in DISIS-2012-002 is still valid.

Cluster Group 7 (Southwest Oklahoma Area)

There stability analysis was not performed again for this restudy. The original analysis in DISIS-2012-002 is still valid.

Cluster Group 8 (South Central Kansas/North Oklahoma)

There stability analysis was not performed again for this restudy. The original analysis in DISIS-2012-002 is still valid.

Cluster Group 9/10 (Nebraska)

There stability analysis was not performed again for this restudy. The original analysis in DISIS-2012-002 is still valid.

Cluster Group 11 (North Central Kansas Area)

This area number is reserved

Cluster Group 12 (Northwest Arkansas Area)

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

Cluster Group 13 (Northwest Missouri Area)

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

Cluster Group 14 (South Central Oklahoma)

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

Cluster Group 15 (reserved)

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

Conclusion

The minimum cost of interconnecting 2,956.8 MW of new interconnection requests included in this Definitive Interconnection System Impact Study is estimated at $478,532,651.00 for the Allocated Network Upgrades and Transmission Owner Interconnection Facilities are listed in Appendix E and F. These costs do not include the cost of upgrades of other transmission facilities listed in Appendix H which are Network Constraints.

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

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

Appendix

A: Generation Interconnection Requests Considered for Impact Study

See next page.

A: Generation Interconnection Requests Considered for Impact Study

Request	Amount	Service	Area	Requested Point of Interconnection	Proposed Point of Interconnection	Requested In-Service Date	In Service Date Delayed Until no earlier than*
ASGI-2012-002	18.15	ER	SPS	FE-Clovis Interchange 115kV	FE-Clovis Interchange 115kV		
GEN-2012-016	312.00	ER	WFEC	Tap Woodward - Thistle 345kV Ckt 1	Tap Woodward - Thistle 345kV Ckt 1	3/1/2017	12/31/2014
GEN-2012-017	115.00	ER	NPPD	Cooper 345kV	Cooper 345kV	9/1/2018	TBD
GEN-2012-018	200.00	ER	NPPD	Tap Hoskins - Twin Church 230kV (GEN-2010-051T)	Tap Hoskins - Twin Church 230kV (GEN-2010-051T)	12/15/2014	TBD
GEN-2012-020	477.12	ER	SPS	TUCO 230kV	TUCO 230kV	9/30/2015	12/31/2014
GEN-2012-021	4.80	ER	LES	Terry Bundy Generating Station 115kV	Terry Bundy Generating Station 115kV	8/1/2013	TBD
GEN-2012-023	115.00	ER	WERE	Viola 345kV	Viola 345kV	12/31/2014	TBD
GEN-2012-024	180.00	ER	SUNCMKEC	Clark County 345kV	Clark County 345kV	12/31/2015	12/31/2014
GEN-2012-026	100.00	ER/NR	MIDW	Colby 115kV	Colby 115kV	12/31/2014	TBD
GEN-2012-027	136.00	ER	AEPW	Shidler 138kV	Shidler 138kV	12/1/2014	TBD
GEN-2012-028	74.80	ER	WFEC	Gotebo 69kV	Gotebo 69kV	12/1/2014	TBD
GEN-2012-031	200.10	ER	OKGE	Cimarron 345kV (GEN-2010-040 Sub)	Cimarron 345kV (GEN-2010-040 Sub)	11/30/2014	TBD
GEN-2012-032	300.00	ER	OKGE	Tap Rose Hill - Sooner 345kV	Tap Rose Hill - Sooner 345kV	11/30/2014	TBD
GEN-2012-033	98.82	ER	OKGE	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV	12/1/2014	TBD
GEN-2012-034	7.00	ER	SPS	Mustang 230kV	Mustang 230kV	6/1/2013	TBD
GEN-2012-035	7.00	ER	SPS	Mustang 230kV	Mustang 230kV	6/1/2013	TBD
GEN-2012-036	7.00	ER	SPS	Mustang 230kV	Mustang 230kV	6/1/2013	TBD
GEN-2012-037	203.00	ER	SPS	TUCO 345kV	TUCO 345kV	3/1/2015	12/31/2014
GEN-2012-038	203.00	ER	SPS	Tap Border - TUCO 345kV	Tap Border - TUCO 345kV	3/1/2015	12/31/2014
GEN-2012-040	76.50	ER/NR	OKGE	Chilocco 138kV	Chilocco 138kV	12/1/2013	TBD
GEN-2012-041	121.50	ER	OKGE	Tap Rose Hill - Sooner 345kV	Tap Rose Hill - Sooner 345kV	4/15/2015	TBD
Total:	**2,956.79**						

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

B: Prior Queued Interconnection Requests

See next page.

B: Prior Queued Interconnection Requests

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
ASGI-2010-006	150.00	AECI	Tap Fairfax (AECI) - Shilder (AEPW) 138kV	AECI queue Affected Study
ASGI-2010-010	42.20	SPS	Lovington 115kV	Lea County Affected Study
ASGI-2010-020	30.00	SPS	Tap LE-Tatum - LE-Crossroads 69kV	Lea County Affected Study
ASGI-2010-021	15.00	SPS	Tap LE-Saunders Tap - LE-Anderson 69kV	Lea County Affected Study
ASGI-2011-001	28.80	SPS	Lovington 115kV	Lea County Affected Study
ASGI-2011-002	10.00	SPS	Herring 115kV	AECI queue Affected Study
ASGI-2011-003	10.00	SPS	Hendricks 115kV	AECI queue Affected Study
ASGI-2011-004	20.00	SPS	Pleasant Hill 69kV	Under Study (DISIS-2011-002)
ASGI-2012-006	22.50	SUNCMKEC	Tap Hugoton - Rolla 69kV	Under Study (DISIS-2012-001)
GEN-2001-014	96.00	WFEC	Ft Supply 138kV	On-Line
GEN-2001-026	74.00	WFEC	Washita 138kV	On-Line
GEN-2001-033	180.00	SPS	San Juan Tap 230kV	On-Line
GEN-2001-036	80.00	SPS	Norton 115kV	On-Line
GEN-2001-037	102.00	OKGE	FPL Moreland Tap 138kV	On-Line
GEN-2001-039A	105.00	SUNCMKEC	Tap Greensburg - Ft Dodge (Shooting Star Tap) 115kV	On-Line
GEN-2001-039M	99.00	SUNCMKEC	Central Plains Tap 115kV	On-Line
GEN-2002-004	200.00	WERE	Latham 345kV	On-Line at 150MW
GEN-2002-005	120.00	WFEC	Red Hills Tap 138kV	On-Line
GEN-2002-008	240.00	SPS	Hitchland 345kV	On-Line at 120MW
GEN-2002-009	80.00	SPS	Hansford 115kV	On-Line
GEN-2002-022	240.00	SPS	Bushland 230kV	On-Line
GEN-2002-023N	0.80	NPPD	Harmony 115kV	On-Line
GEN-2002-025A	150.00	SUNCMKEC	Spearville 230kV	On-Line
GEN-2003-004 GEN-2004-023 GEN-2005-003	151.20	WFEC	Washita 138kV	On-Line
GEN-2003-005	100.00	WFEC	Anadarko - Paradise (Blue Canyon) 138kV	On-Line
GEN-2003-006A	200.00	SUNCMKEC	Elm Creek 230kV	On-Line
GEN-2003-019	250.00	MIDW	Smoky Hills Tap 230kV	On-Line
GEN-2003-020	160.00	SPS	Martin 115kV	On-Line
GEN-2003-021N	75.00	NPPD	Ainsworth Wind Tap 115kV	On-Line
GEN-2003-022	120.00	AEPW	Washita 138kV	On-Line
GEN-2004-005N	30.00	NPPD	St Francis 115kV	On Suspension
GEN-2004-014	154.50	SUNCMKEC	Spearville 230kV	On-Line at 100MW
GEN-2004-020	27.00	AEPW	Washita 34.5kV	On-Line
GEN-2004-023N	75.00	NPPD	Columbus Co 115kV	On-Line
GEN-2005-008	120.00	OKGE	Woodward 138kV	On-Line
GEN-2005-012	250.00	SUNCMKEC	Spearville 345kV	On-Line at 160MW
GEN-2005-013	201.00	WERE	Tap Latham - Neosho (Caney River) 345kV	On-Line
GEN-2006-002	101.00	AEPW	Sweetwater 230kV	On-Line
GEN-2006-006	205.50	SUNCMKEC	Spearville 345kV	On Schedule for 2015
GEN-2006-014	300.00	MIPU	Tap Maryville - Midway (Nodway Co) 161kV	On Suspension
GEN-2006-018	170.00	SPS	TUCO Interchange 230kV	On-Line
GEN-2006-020N	42.00	NPPD	Bloomfield 115kV	On-Line
GEN-2006-020S	18.90	SPS	DWS Frisco 115kV	On-Line
GEN-2006-021	101.00	SUNCMKEC	Flat Ridge Tap 138kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2006-022	150.00	SUNCMKEC	Ninnescah 115kV	On Schedule for 2014
GEN-2006-024S	19.80	WFEC	Buffalo Bear Tap 69kV	On-Line
GEN-2006-026	604.00	SPS	Hobbs 230kV & Hobbs 115kV	On-Line
GEN-2006-031	75.00	MIDW	Knoll 115kV	On-Line
GEN-2006-035	225.00	AEPW	Sweetwater 230kV	On-Line at 132MW
GEN-2006-037N1	75.00	NPPD	Broken Bow 115kV	On Schedule for 2013
GEN-2006-038N005	80.00	NPPD	Broken Bow 115kV	On-Line
GEN-2006-038N019	80.00	NPPD	Petersburg North 115kV	On-Line
GEN-2006-040	108.00	SUNCMKEC	Mingo 115kV	On Suspension
GEN-2006-043	99.00	AEPW	Sweetwater 230kV	On-Line
GEN-2006-044	370.00	SPS	Hitchland 345kV	On-Line at 80MW
GEN-2006-044N	40.50	OPPD	North Petersburg 115kV	On-Line
GEN-2006-046	131.00	OKGE	Dewey 138kV	On-Line
GEN-2006-047	240.00	SPS	Tap Bushland - Deaf Smith (Buffalo) 230kV	On Suspension
GEN-2007-011	135.00	SUNCMKEC	Syracuse 115kV	On Suspension
GEN-2007-011N08	81.00	NPPD	Bloomfield 115kV	On-Line
GEN-2007-021	201.00	OKGE	Tatonga 345kV	On Schedule for 2014
GEN-2007-025	300.00	WERE	Viola 345kV	On-Line
GEN-2007-032	150.00	WFEC	Tap Clinton Junction - Clinton 138kV	On Schedule for 2013
GEN-2007-038	200.00	SUNCMKEC	Spearville 345kV	On Schedule for 2015
GEN-2007-040	200.00	SUNCMKEC	Buckner 345kV	On-Line at 132MW
GEN-2007-043	200.00	OKGE	Minco 345kV	On-Line
GEN-2007-044	300.00	OKGE	Tatonga 345kV	On Schedule for 2014
GEN-2007-046	199.50	SPS	Hitchland 115kV	On Schedule for 2014
GEN-2007-048	400.00	SPS	Tap Amarillo S - Swisher 230kV	On Schedule for 2014
GEN-2007-050	170.00	OKGE	Woodward EHV 138kV	On-Line at 150MW
GEN-2007-052	150.00	WFEC	Anadarko 138kV	On-Line
GEN-2007-057	34.50	SPS	Moore County East 115kV	On Schedule for 2014
GEN-2007-062	765.00	OKGE	Woodward EHV 345kV	On Schedule for 2014
GEN-2008-003	101.00	OKGE	Woodward EHV 138kV	On-Line
GEN-2008-008	60.00	SPS	Graham 69kV	On Suspension
GEN-2008-009	60.00	SPS	San Juan Tap 230kV	On Schedule for 2014
GEN-2008-013	300.00	OKGE	Tap Wichita - Woodring (Hunter) 345kV	On-Line at 235MW
GEN-2008-017	300.00	SUNCMKEC	Setab 345kV	On Schedule for 2014
GEN-2008-018	405.00	SPS	Finney 345kV	On Schedule for 2014
GEN-2008-019	300.00	OKGE	Tatonga 345kV	On Schedule for 2015
GEN-2008-021	42.00	WERE	Wolf Creek 345kV	On-Line
GEN-2008-022	300.00	SPS	Tap Eddy Co - Tolk (Chaves County) 345kV	On Schedule for 2015
GEN-2008-023	150.00	AEPW	Hobart Junction 138kV	On-Line
GEN-2008-025	101.00	SUNCMKEC	Ruleton 115kV	On Schedule for 2015
GEN-2008-029	250.00	OKGE	Woodward EHV 138kV	On Schedule for 2014
GEN-2008-037	101.00	WFEC	Tap Washita - Blue Canyon Wind 138kV	On-Line
GEN-2008-044	197.80	OKGE	Tatonga 345kV	On-Line
GEN-2008-046	200.00	OKGE	Sunnyside 345kV	On Suspension
GEN-2008-047	300.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV	IA Pending
GEN-2008-051	322.00	SPS	Potter County 345kV	On-Line at 161MW
GEN-2008-071	76.80	OKGE	Newkirk 138kV	On Suspension

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2008-079	98.90	SUNCMKEC	Tap Cudahy - Ft Dodge 115kV	On-Line
GEN-2008-086N02	200.00	NPPD	Tap Ft Randle - Columbus (Madison County) 230kV	On Schedule for 2014
GEN-2008-088	50.60	SPS	Vega 69kV	On Schedule for 2014
GEN-2008-092	201.00	MIDW	Knoll 230kV	IA Pending
GEN-2008-098	100.80	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV	On Schedule for 2015
GEN-2008-119O	60.00	OPPD	S1399 161kV	On-Line
GEN-2008-123N	89.70	NPPD	Tap Guide Rock - Pauline 115kV	On Schedule for 2014
GEN-2008-124	200.00	SUNCMKEC	Spearville 345kV	On Schedule for 2014
GEN-2008-124T	42.00	SPS	TC-Keyes Texas County 69kV	On Schedule for 2014
GEN-2008-129	80.00	MIPU	Pleasant Hill 161kV	On-Line
GEN-2009-008	199.50	MIDW	South Hays 230kV	On Suspension
GEN-2009-016	100.80	AEPW	Falcon Road 138kV	On Schedule for 2015
GEN-2009-020	48.60	MIDW	Tap Nekoma - Bazine 69kV	On Suspension
GEN-2009-025	60.00	OKGE	Tap Deer Creek - Sinclair Blackwell 69kV	On-Line
GEN-2009-040	73.80	WERE	Marshall 115kV	On Suspension
GEN-2009-067S	20.00	SPS	Seven Rivers 69kV	On Suspension
GEN-2009-073T	48.00	SPS	TC-Eva Texas County 69kV	On Schedule for 2014
GEN-2010-001	300.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV	On Schedule for 2014 (204 MW) and 2015 (96 MW)
GEN-2010-003	100.80	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV	On Schedule for 2015
GEN-2010-005	300.00	WERE	Viola 345kV	On-Line at 114MW
GEN-2010-006	205.00	SPS	Jones 230kV	On-Line
GEN-2010-009	165.60	SUNCMKEC	Buckner 345kV	On-Line
GEN-2010-011	30.00	OKGE	Tatonga 345kV	On Line
GEN-2010-014	358.80	SPS	Hitchland 345kV	On Schedule for 2016
GEN-2010-015	200.10	SUNCMKEC	Spearville 345kV	On Schedule for 2015
GEN-2010-020	20.00	SPS	Roswell 69kV	On Suspension
GEN-2010-029	450.00	SUNCMKEC	Spearville 345kV	IA Pending
GEN-2010-036	4.60	WERE	6th Street 115kV	On-Line
GEN-2010-040	300.00	OKGE	Cimarron 345kV	On-Line
GEN-2010-041	10.50	OPPD	S 1399 161kV	Facility Study
GEN-2010-044	99.00	NPPD	Harbine 115kV	IA Pending
GEN-2010-045	197.80	SUNCMKEC	Buckner 345kV	IA Pending
GEN-2010-046	56.00	SPS	TUCO Interchange 230kV	On Schedule for 2016
GEN-2010-048	70.00	MIDW	Tap Beach Station - Redline 115kV	IA Pending
GEN-2010-051	200.00	NPPD	Tap Twin Church - Hoskins 230kV	On Schedule for 2014
GEN-2010-055	4.50	AEPW	Wekiwa 138kV	On-Line
GEN-2010-056	151.00	MIPU	Tap Saint Joseph - Cooper 345kV	On Suspension
GEN-2010-057	201.00	MIDW	Rice County 230kV	On-Line
GEN-2010-058	20.00	SPS	Chaves County 115kV	On Suspension
GEN-2010-061	180.00	MIDW	Tap Post Rock - Spearville (GEN-2011-017T) 345kV	Facility Study
GEN-2011-007	250.00	OKGE	Tap Cimarron - Woodring (Matthewson) 345kV	On Schedule for 2014
GEN-2011-008	600.00	SUNCMKEC	Clark County 345kV	IA Pending
GEN-2011-010	100.80	OKGE	Minco 345kV	On-Line
GEN-2011-011	50.00	KACP	Iatan 345kV	On-Line
GEN-2011-012	104.50	SPS	Tap Moore County - Hitchland 230kV	IA Pending
GEN-2011-014	201.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV	IA Pending
GEN-2011-016	200.10	SUNCMKEC	Spearville 345kV	IA Pending

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
GEN-2011-017	299.00	SUNCMKEC	Tap Spearville - PostRock (GEN-2011-017T) 345kV	IA Pending
GEN-2011-018	73.60	NPPD	Steele City 115kV	On Schedule for 2013
GEN-2011-019	299.00	OKGE	Woodward 345kV	IA Pending
GEN-2011-020	299.00	OKGE	Woodward 345kV	IA Pending
GEN-2011-021	299.00	SPS	Beaver County 345kV	IA Pending
GEN-2011-022	299.00	SPS	Hitchland 345kV	IA Pending
GEN-2011-023	299.00	SUNCMKEC	Clark County 345kV	IA Pending
GEN-2011-024	299.00	OKGE	Tatonga 345kV	IA Pending
GEN-2011-025	82.30	SPS	Tap Floyd County - Crosby County 115kV	On Suspension
GEN-2011-027	120.00	NPPD	Hoskins 230kV	IA Pending
GEN-2011-037	7.00	WFEC	Blue Canyon 5 138kV	On-Line
GEN-2011-040	111.00	OKGE	Tap Ratliff - Pooleville 138kV	On Schedule for 2013
GEN-2011-043	150.00	SUNCMKEC	Thistle 345kV	Facility Study
GEN-2011-044	150.00	SUNCMKEC	Thistle 345kV	Facility Study
GEN-2011-045	205.00	SPS	Jones 230kV	On-Line
GEN-2011-046	27.00	SPS	Lopez 115kV	On Schedule for 2013
GEN-2011-048	175.00	SPS	Mustang 230kV	On Schedule for 2014
GEN-2011-049	250.00	OKGE	Border 345kV	IA Pending
GEN-2011-050	109.80	AEPW	Tap Rush Springs - Marlow 138kV	IA Pending
GEN-2011-051	104.40	OKGE	Tap Woodward - Tatonga 345kV	IA Pending
GEN-2011-054	300.00	OKGE	Cimarron 345kV	On Schedule for 2013 (200 MW) and 2014 (99 MW)
GEN-2011-055	52.80	OPPD	South Sterling 69kV	Facility Study
GEN-2011-056	3.60	NPPD	Jeffrey 115kV	On-Line
GEN-2011-056A	3.60	NPPD	John 1 115kV	On-Line
GEN-2011-056B	4.50	NPPD	John 2 115kV	On-Line
GEN-2011-057	150.40	WERE	Creswell 138kV	On Schedule for 2014
GEN-2012-001	61.20	SPS	Tap Grassland - Borden County 230kV	On-Line
GEN-2012-002	101.20	SUNCMKEC	Tap Pile - Scott City 115kV	IA Pending
GEN-2012-004	41.40	OKGE	Tap Ratliff - Pooleville 138kV	IA Pending
GEN-2012-007	120.00	SUNCMKEC	Rubart 115kV	IA Pending
GEN-2012-008	40.00	SPS	Mustang 115kV & Mustang 230kV	Facility Study
GEN-2012-009	15.00	SPS	Mustang 230kV	Facility Study
GEN-2012-010	15.00	SPS	Mustang 230kV	Facility Study
GEN-2012-011	200.00	SUNCMKEC	Tap Spearville - Post Rock 345kV (North of GEN-2011-017 Tap)	Facility Study
Gray County Wind (Montezuma)	110.00	SUNCMKEC	Gray County Tap 115kV	On-Line
Llano Estacado (White Deer)	80.00	SPS	Llano Wind 115kV	On-Line
NPPD Distributed (Broken Bow)	8.30	NPPD	Broken Bow 115kV	On-Line
NPPD Distributed (Burwell)	3.00	NPPD	Ord 115kV	On-Line
NPPD Distributed (Columbus Hydro)	45.00	NPPD	Columbus 115kV	On-Line
NPPD Distributed (North Platte - Lexington)	54.00	NPPD	Multiple: Jeffrey 115kV, John_1 115kV, John_2 115kV	On-Line
NPPD Distributed (Ord)	10.80	NPPD	Ord 115kV	On-Line
NPPD Distributed (Stuart)	2.10	NPPD	Ainsworth 115kV	On-Line
SPS Distributed (Dumas 19th St)	20.00	SPS	Dumas 19th Street 115kV	On-Line
SPS Distributed (Etter)	20.00	SPS	Etter 115kV	On-Line
SPS Distributed (Hopi)	10.00	SPS	Hopi 115kV	On-Line

Request	Amount	Area	Requested/Proposed Point of Interconnection	Status or In-Service Date
SPS Distributed (Jal)	10.00	SPS	S Jal 115kV	On-Line
SPS Distributed (Lea Road)	10.00	SPS	Lea Road 115kV	On-Line
SPS Distributed (Monument)	10.00	SPS	Monument 115kV	On-Line
SPS Distributed (Moore E)	25.00	SPS	Moore East 115kV	On-Line
SPS Distributed (Ocotillo)	10.00	SPS	Ocotillo 115kV	On-Line
SPS Distributed (Sherman)	20.00	SPS	Sherman 115kV	On-Line
SPS Distributed (Spearman)	10.00	SPS	Spearman 69kV	On-Line
SPS Distributed (TC-Texas County)	20.00	SPS	Texas County 115kV	On-Line
Total:	**26,347.1**			

C: Study Groupings

See next page

C. Study Groups

GROUP 1: WOODWARD AREA			
Request	**Capacity**	**Area**	**Proposed Point of Interconnection**
GEN-2001-014	96.00	WFEC	Ft Supply 138kV
GEN-2001-037	102.00	OKGE	FPL Moreland Tap 138kV
GEN-2005-008	120.00	OKGE	Woodward 138kV
GEN-2006-024S	19.80	WFEC	Buffalo Bear Tap 69kV
GEN-2006-046	131.00	OKGE	Dewey 138kV
GEN-2007-021	201.00	OKGE	Tatonga 345kV
GEN-2007-043	200.00	OKGE	Minco 345kV
GEN-2007-044	300.00	OKGE	Tatonga 345kV
GEN-2007-050	170.00	OKGE	Woodward EHV 138kV
GEN-2007-062	765.00	OKGE	Woodward EHV 345kV
GEN-2008-003	101.00	OKGE	Woodward EHV 138kV
GEN-2008-019	300.00	OKGE	Tatonga 345kV
GEN-2008-029	250.00	OKGE	Woodward EHV 138kV
GEN-2008-044	197.80	OKGE	Tatonga 345kV
GEN-2010-011	30.00	OKGE	Tatonga 345kV
GEN-2010-040	300.00	OKGE	Cimarron 345kV
GEN-2011-007	250.00	OKGE	Tap Cimarron - Woodring (Matthewson) 345kV
GEN-2011-010	100.80	OKGE	Minco 345kV
GEN-2011-019	299.00	OKGE	Woodward 345kV
GEN-2011-020	299.00	OKGE	Woodward 345kV
GEN-2011-024	299.00	OKGE	Tatonga 345kV
GEN-2011-051	104.40	OKGE	Tap Woodward - Tatonga 345kV
GEN-2011-054	300.00	OKGE	Cimarron 345kV
PRIOR QUEUED SUBTOTAL	**4,935.80**		
GEN-2012-016	312.00	WFEC	Tap Woodward - Thistle 345kV Ckt 1
GEN-2012-031	200.10	OKGE	Cimarron 345kV (GEN-2010-040 Sub)
CURRENT CLUSTER SUBTOTAL	**512.10**		
AREA TOTAL	**5,447.90**		

GROUP 2: HITCHLAND AREA			
Request	**Capacity**	**Area**	**Proposed Point of Interconnection**
ASGI-2011-002	10.00	SPS	Herring 115kV
GEN-2002-008	240.00	SPS	Hitchland 345kV
GEN-2002-009	80.00	SPS	Hansford 115kV
GEN-2003-020	160.00	SPS	Martin 115kV
GEN-2006-020S	18.90	SPS	DWS Frisco 115kV
GEN-2006-044	370.00	SPS	Hitchland 345kV
GEN-2007-046	199.50	SPS	Hitchland 115kV
GEN-2007-057	34.50	SPS	Moore County East 115kV
GEN-2008-047	300.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV
GEN-2008-124T	42.00	SPS	TC-Keyes Texas County 69kV
GEN-2009-073T	48.00	SPS	TC-Eva Texas County 69kV
GEN-2010-001	300.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV
GEN-2010-014	358.80	SPS	Hitchland 345kV
GEN-2011-012	104.50	SPS	Tap Moore County - Hitchland 230kV
GEN-2011-014	201.00	SPS	Tap Hitchland - Woodward Ckt 1 (Beaver County) 345kV
GEN-2011-021	299.00	SPS	Beaver County 345kV
GEN-2011-022	299.00	SPS	Hitchland 345kV
SPS Distributed (Dumas 19th St)	20.00	SPS	Dumas 19th Street 115kV
SPS Distributed (Etter)	20.00	SPS	Etter 115kV
SPS Distributed (Moore E)	25.00	SPS	Moore East 115kV
SPS Distributed (Sherman)	20.00	SPS	Sherman 115kV
SPS Distributed (Spearman)	10.00	SPS	Spearman 69kV
SPS Distributed (TC-Texas County)	20.00	SPS	Texas County 115kV
PRIOR QUEUED SUBTOTAL	**3,180.20**		
AREA TOTAL	**3,180.20**		

GROUP 3: SPEARVILLE AREA			
Request	**Capacity**	**Area**	**Proposed Point of Interconnection**
ASGI-2012-006	22.50	SUNCMKEC	Tap Hugoton - Rolla 69kV
GEN-2001-039A	105.00	SUNCMKEC	Tap Greensburg - Ft Dodge (Shooting Star Tap) 115kV
GEN-2002-025A	150.00	SUNCMKEC	Spearville 230kV
GEN-2004-014	154.50	SUNCMKEC	Spearville 230kV
GEN-2005-012	250.00	SUNCMKEC	Spearville 345kV
GEN-2006-006	205.50	SUNCMKEC	Spearville 345kV
GEN-2006-021	101.00	SUNCMKEC	Flat Ridge Tap 138kV
GEN-2006-022	150.00	SUNCMKEC	Ninnescah 115kV
GEN-2007-038	200.00	SUNCMKEC	Spearville 345kV
GEN-2007-040	200.00	SUNCMKEC	Buckner 345kV
GEN-2008-018	405.00	SPS	Finney 345kV
GEN-2008-079	98.90	SUNCMKEC	Tap Cudahy - Ft Dodge 115kV
GEN-2008-124	200.00	SUNCMKEC	Spearville 345kV
GEN-2010-009	165.60	SUNCMKEC	Buckner 345kV
GEN-2010-015	200.10	SUNCMKEC	Spearville 345kV
GEN-2010-029	450.00	SUNCMKEC	Spearville 345kV
GEN-2010-045	197.80	SUNCMKEC	Buckner 345kV
GEN-2010-061	180.00	MIDW	Tap Post Rock - Spearville (GEN-2011-017T) 345kV
GEN-2011-008	600.00	SUNCMKEC	Clark County 345kV
GEN-2011-016	200.10	SUNCMKEC	Spearville 345kV
GEN-2011-017	299.00	SUNCMKEC	Tap Spearville - PostRock (GEN-2011-017T) 345kV
GEN-2011-023	299.00	SUNCMKEC	Clark County 345kV
GEN-2011-043	150.00	SUNCMKEC	Thistle 345kV
GEN-2011-044	150.00	SUNCMKEC	Thistle 345kV
GEN-2012-007	120.00	SUNCMKEC	Rubart 115kV
GEN-2012-011	200.00	SUNCMKEC	Tap Spearville - Post Rock 345kV (North of GEN-2011-017 Tap)
Gray County Wind (Montezuma)	110.00	SUNCMKEC	Gray County Tap 115kV
PRIOR QUEUED SUBTOTAL	**5,564.00**		
GEN-2012-024	180.00	SUNCMKEC	Clark County 345kV
CURRENT CLUSTER SUBTOTAL	**180.00**		
AREA TOTAL	**5,744.00**		

GROUP 4: NW KANSAS AREA

Request	Capacity	Area	Proposed Point of Interconnection
GEN-2001-039M	99.00	SUNCMKEC	Central Plains Tap 115kV
GEN-2003-006A	200.00	SUNCMKEC	Elm Creek 230kV
GEN-2003-019	250.00	MIDW	Smoky Hills Tap 230kV
GEN-2006-031	75.00	MIDW	Knoll 115kV
GEN-2006-040	108.00	SUNCMKEC	Mingo 115kV
GEN-2007-011	135.00	SUNCMKEC	Syracuse 115kV
GEN-2008-017	300.00	SUNCMKEC	Setab 345kV
GEN-2008-025	101.00	SUNCMKEC	Ruleton 115kV
GEN-2008-092	201.00	MIDW	Knoll 230kV
GEN-2009-008	199.50	MIDW	South Hays 230kV
GEN-2009-020	48.60	MIDW	Tap Nekoma - Bazine 69kV
GEN-2010-048	70.00	MIDW	Tap Beach Station - Redline 115kV
GEN-2010-057	201.00	MIDW	Rice County 230kV
GEN-2012-002	101.20	SUNCMKEC	Tap Pile - Scott City 115kV
PRIOR QUEUED SUBTOTAL	**2,089.30**		
GEN-2012-026	100.00	MIDW	Colby 115kV
CURRENT CLUSTER SUBTOTAL	**100.00**		
AREA TOTAL	**2,189.30**		

GROUP 5: AMARILLO AREA

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

GROUP 6: S-TX PANHANDLE/NW AREA			
Request	**Capacity**	**Area**	**Proposed Point of Interconnection**
ASGI-2010-010	42.20	SPS	Lovington 115kV
ASGI-2010-020	30.00	SPS	Tap LE-Tatum - LE-Crossroads 69kV
ASGI-2010-021	15.00	SPS	Tap LE-Saunders Tap - LE-Anderson 69kV
ASGI-2011-001	28.80	SPS	Lovington 115kV
ASGI-2011-003	10.00	SPS	Hendricks 115kV
ASGI-2011-004	20.00	SPS	Pleasant Hill 69kV
GEN-2001-033	180.00	SPS	San Juan Tap 230kV
GEN-2001-036	80.00	SPS	Norton 115kV
GEN-2006-018	170.00	SPS	TUCO Interchange 230kV
GEN-2006-026	604.00	SPS	Hobbs 230kV & Hobbs 115kV
GEN-2008-008	60.00	SPS	Graham 69kV
GEN-2008-009	60.00	SPS	San Juan Tap 230kV
GEN-2008-022	300.00	SPS	Tap Eddy Co - Tolk (Chaves County) 345kV
GEN-2009-067S	20.00	SPS	Seven Rivers 69kV
GEN-2010-006	205.00	SPS	Jones 230kV
GEN-2010-020	20.00	SPS	Roswell 69kV
GEN-2010-046	56.00	SPS	TUCO Interchange 230kV
GEN-2010-058	20.00	SPS	Chaves County 115kV
GEN-2011-025	82.30	SPS	Tap Floyd County - Crosby County 115kV
GEN-2011-045	205.00	SPS	Jones 230kV
GEN-2011-046	27.00	SPS	Lopez 115kV
GEN-2011-048	175.00	SPS	Mustang 230kV
GEN-2012-001	61.20	SPS	Tap Grassland - Borden County 230kV
GEN-2012-008	40.00	SPS	Mustang 115kV & Mustang 230kV
GEN-2012-009	15.00	SPS	Mustang 230kV
GEN-2012-010	15.00	SPS	Mustang 230kV
SPS Distributed (Hopi)	10.00	SPS	Hopi 115kV
SPS Distributed (Jal)	10.00	SPS	S Jal 115kV
SPS Distributed (Lea Road)	10.00	SPS	Lea Road 115kV
SPS Distributed (Monument)	10.00	SPS	Monument 115kV
SPS Distributed (Ocotillo)	10.00	SPS	Ocotillo 115kV
PRIOR QUEUED SUBTOTAL	**2,591.50**		
ASGI-2012-002	18.15	SPS	FE-Clovis Interchange 115kV
GEN-2012-020	477.12	SPS	TUCO 230kV
GEN-2012-034	7.00	SPS	Mustang 230kV
GEN-2012-035	7.00	SPS	Mustang 230kV
GEN-2012-036	7.00	SPS	Mustang 230kV
GEN-2012-037	203.00	SPS	TUCO 345kV
GEN-2012-038	203.00	SPS	Tap Border - TUCO 345kV
CURRENT CLUSTER SUBTOTAL	**922.27**		
AREA TOTAL	**3,513.8**		

GROUP 7: SW OKLAHOMA AREA			
Request	**Capacity**	**Area**	**Proposed Point of Interconnection**
GEN-2001-026	74.00	WFEC	Washita 138kV
GEN-2002-005	120.00	WFEC	Red Hills Tap 138kV
GEN-2003-004 GEN-2004-023 GEN-2005-003	151.20	WFEC	Washita 138kV
GEN-2003-005	100.00	WFEC	Anadarko - Paradise (Blue Canyon) 138kV
GEN-2003-022	120.00	AEPW	Washita 138kV
GEN-2004-020	27.00	AEPW	Washita 34.5kV
GEN-2006-002	101.00	AEPW	Sweetwater 230kV
GEN-2006-035	225.00	AEPW	Sweetwater 230kV
GEN-2006-043	99.00	AEPW	Sweetwater 230kV
GEN-2007-032	150.00	WFEC	Tap Clinton Junction - Clinton 138kV
GEN-2007-052	150.00	WFEC	Anadarko 138kV
GEN-2008-023	150.00	AEPW	Hobart Junction 138kV
GEN-2008-037	101.00	WFEC	Tap Washita - Blue Canyon Wind 138kV
GEN-2009-016	100.80	AEPW	Falcon Road 138kV
GEN-2011-037	7.00	WFEC	Blue Canyon 5 138kV
GEN-2011-049	250.00	OKGE	Border 345kV
PRIOR QUEUED SUBTOTAL	**1,926.00**		
GEN-2012-028	74.80	WFEC	Gotebo 69kV
CURRENT CLUSTER SUBTOTAL	**74.80**		
AREA TOTAL	**2,000.80**		

GROUP 8: N-OK/S-KS AREA			
Request	**Capacity**	**Area**	**Proposed Point of Interconnection**
ASGI-2010-006	150.00	AECI	Tap Fairfax (AECI) - Shilder (AEPW) 138kV
GEN-2002-004	200.00	WERE	Latham 345kV
GEN-2005-013	201.00	WERE	Tap Latham - Neosho (Caney River) 345kV
GEN-2007-025	300.00	WERE	Viola 345kV
GEN-2008-013	300.00	OKGE	Tap Wichita - Woodring (Hunter) 345kV
GEN-2008-021	42.00	WERE	Wolf Creek 345kV
GEN-2008-071	76.80	OKGE	Newkirk 138kV
GEN-2008-098	100.80	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV
GEN-2009-025	60.00	OKGE	Tap Deer Creek - Sinclair Blackwell 69kV
GEN-2010-003	100.80	WERE	Tap Lacygne - Wolf Creek (Anderson County) 345kV
GEN-2010-005	300.00	WERE	Viola 345kV
GEN-2010-055	4.50	AEPW	Wekiwa 138kV
GEN-2011-057	150.40	WERE	Creswell 138kV
PRIOR QUEUED SUBTOTAL	**1,986.30**		
GEN-2012-023	115.00	WERE	Viola 345kV
GEN-2012-027	136.00	AEPW	Shidler 138kV
GEN-2012-032	300.00	OKGE	Tap Rose Hill - Sooner 345kV
GEN-2012-033	98.82	OKGE	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV
GEN-2012-040	76.50	OKGE	Chilocco 138kV
GEN-2012-041	121.50	OKGE	Tap Rose Hill - Sooner 345kV
CURRENT CLUSTER SUBTOTAL	**847.82**		
AREA TOTAL	**2,834.1**		

GROUP 9/10: NEBRASKA AREA			
Request	**Capacity**	**Area**	**Proposed Point of Interconnection**
GEN-2002-023N	0.80	NPPD	Harmony 115kV
GEN-2003-021N	75.00	NPPD	Ainsworth Wind Tap 115kV
GEN-2004-005N	30.00	NPPD	St Francis 115kV
GEN-2004-023N	75.00	NPPD	Columbus Co 115kV
GEN-2006-020N	42.00	NPPD	Bloomfield 115kV
GEN-2006-037N1	75.00	NPPD	Broken Bow 115kV
GEN-2006-038N005	80.00	NPPD	Broken Bow 115kV
GEN-2006-038N019	80.00	NPPD	Petersburg North 115kV
GEN-2006-044N	40.50	OPPD	North Petersburg 115kV
GEN-2007-011N08	81.00	NPPD	Bloomfield 115kV
GEN-2008-086N02	200.00	NPPD	Tap Ft Randle - Columbus (Madison County) 230kV
GEN-2008-119O	60.00	OPPD	S1399 161kV
GEN-2008-123N	89.70	NPPD	Tap Guide Rock - Pauline 115kV
GEN-2009-040	73.80	WERE	Marshall 115kV
GEN-2010-041	10.50	OPPD	S 1399 161kV
GEN-2010-044	99.00	NPPD	Harbine 115kV
GEN-2010-051	200.00	NPPD	Tap Twin Church - Hoskins 230kV
GEN-2011-018	73.60	NPPD	Steele City 115kV
GEN-2011-027	120.00	NPPD	Hoskins 230kV
GEN-2011-055	52.80	OPPD	South Sterling 69kV
GEN-2011-056	3.60	NPPD	Jeffrey 115kV
GEN-2011-056A	3.60	NPPD	John 1 115kV
GEN-2011-056B	4.50	NPPD	John 2 115kV
NPPD Distributed (Broken Bow)	8.30	NPPD	Broken Bow 115kV
NPPD Distributed (Burwell)	3.00	NPPD	Ord 115kV
NPPD Distributed (Columbus Hydro)	45.00	NPPD	Columbus 115kV
NPPD Distributed (North Platte - Lexington)	54.00	NPPD	Multiple: Jeffrey 115kV, John_1 115kV, John_2 115kV
NPPD Distributed (Ord)	10.80	NPPD	Ord 115kV
NPPD Distributed (Stuart)	2.10	NPPD	Ainsworth 115kV
PRIOR QUEUED SUBTOTAL	**1,693.60**		
GEN-2012-017	115.00	NPPD	Cooper 345kV
GEN-2012-018	200.00	NPPD	Tap Hoskins - Twin Church 230kV (GEN-2010-051T)
GEN-2012-021	4.80	LES	Terry Bundy Generating Station 115kV
CURRENT CLUSTER SUBTOTAL	**319.80**		
AREA TOTAL	**2,013.4**		

GROUP 12: NW AR AREA

Request	Capacity	Area	Proposed Point of Interconnection
AREA TOTAL	**0.00**		

GROUP 13: NW MISSOURI AREA

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

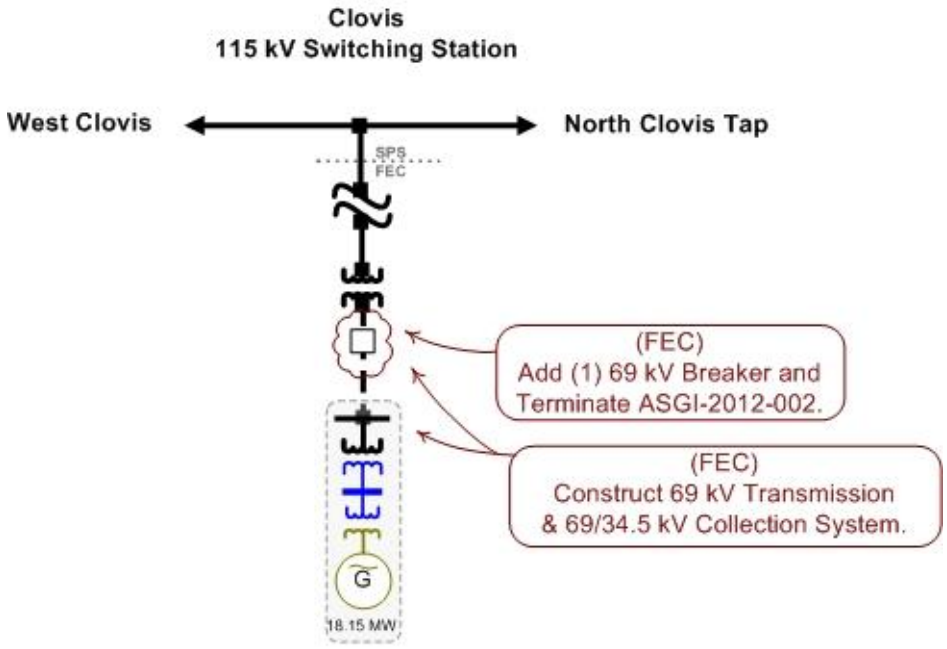
GROUP 14: S OKLAHOMA AREA

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

CLUSTER TOTAL (CURRENT STUDY)	**2,956.8**	**MW**
PQ TOTAL (PRIOR QUEUED)	**26,347.1**	**MW**
CLUSTER TOTAL (INCLUDING PRIOR QUEUED)	**29,303.9**	**MW**

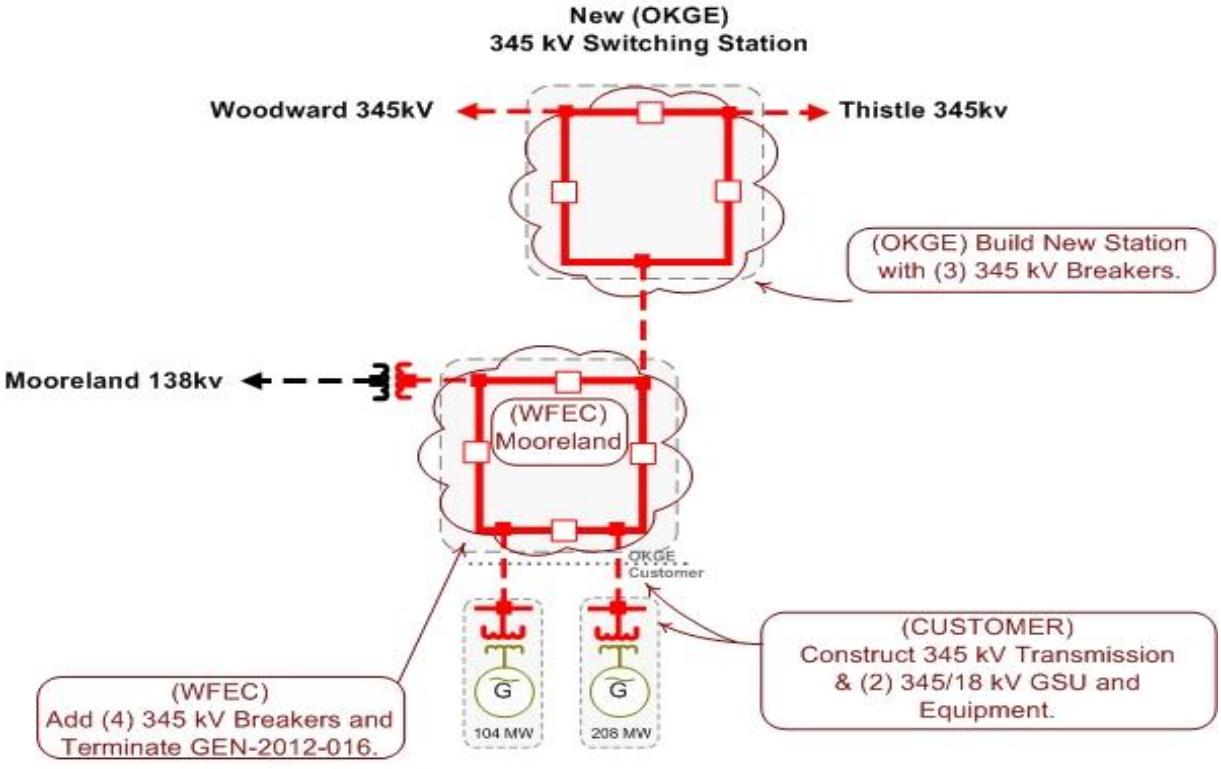
D: Proposed Point of Interconnection One Line Diagrams

ASGI-2012-002



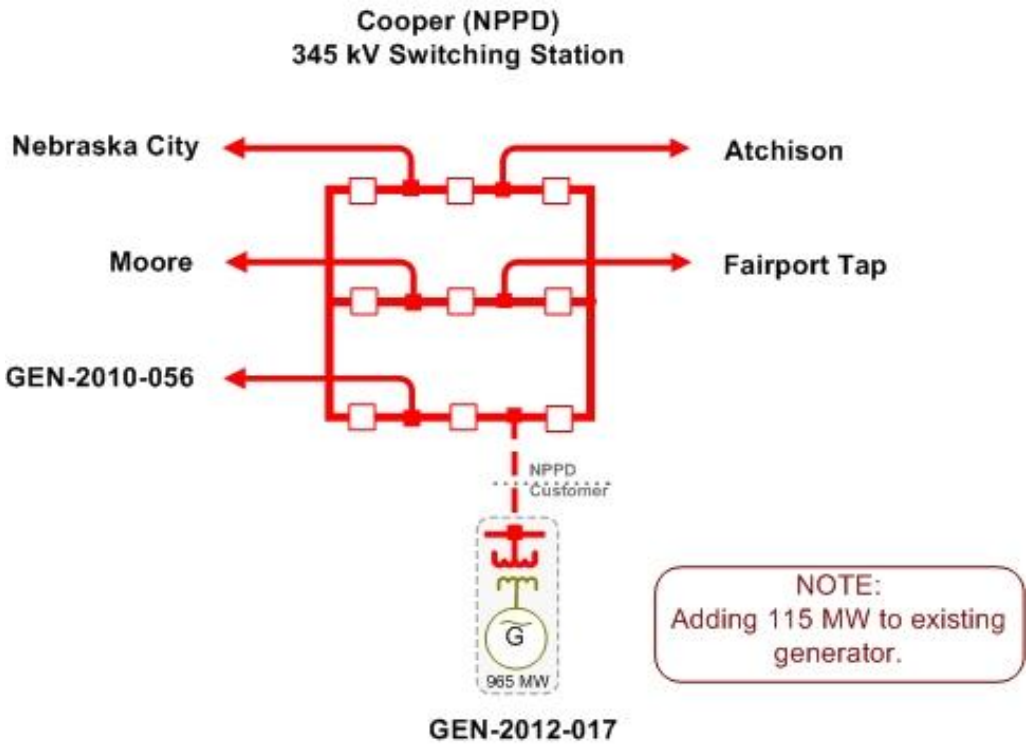
ASGI-2012-002

GEN-2012-016



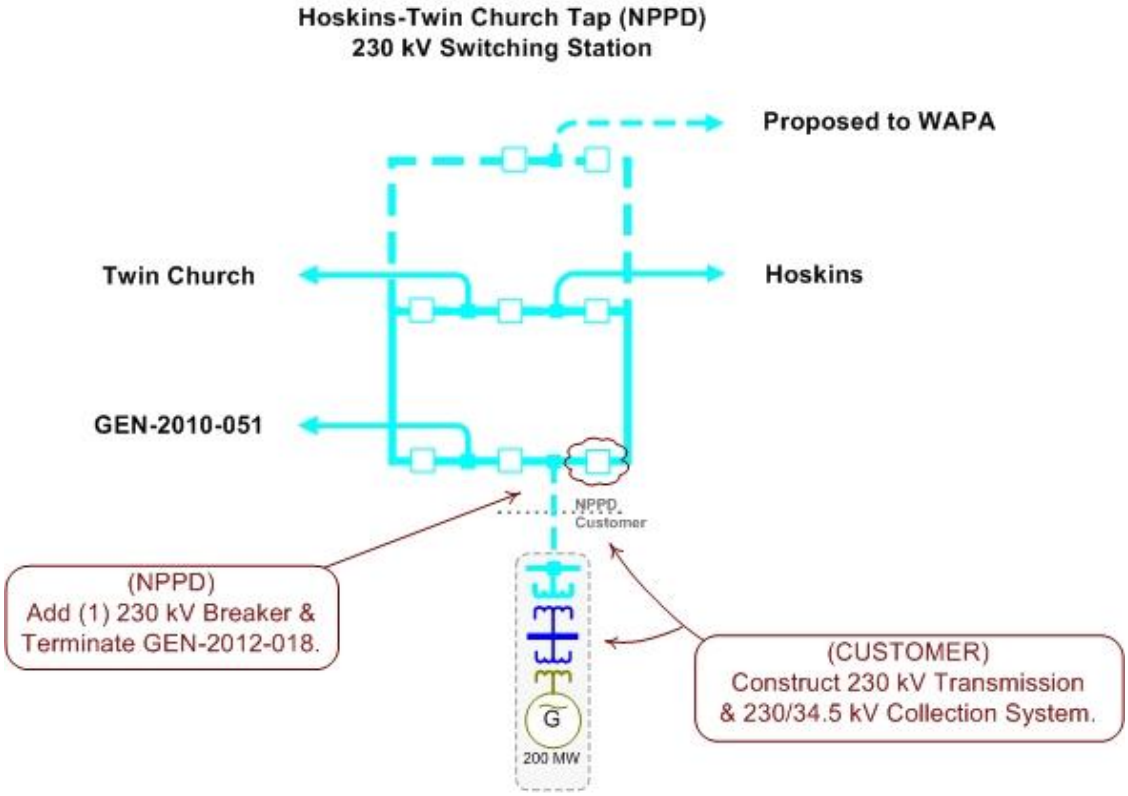
GEN-2012-016

GEN-2012-017



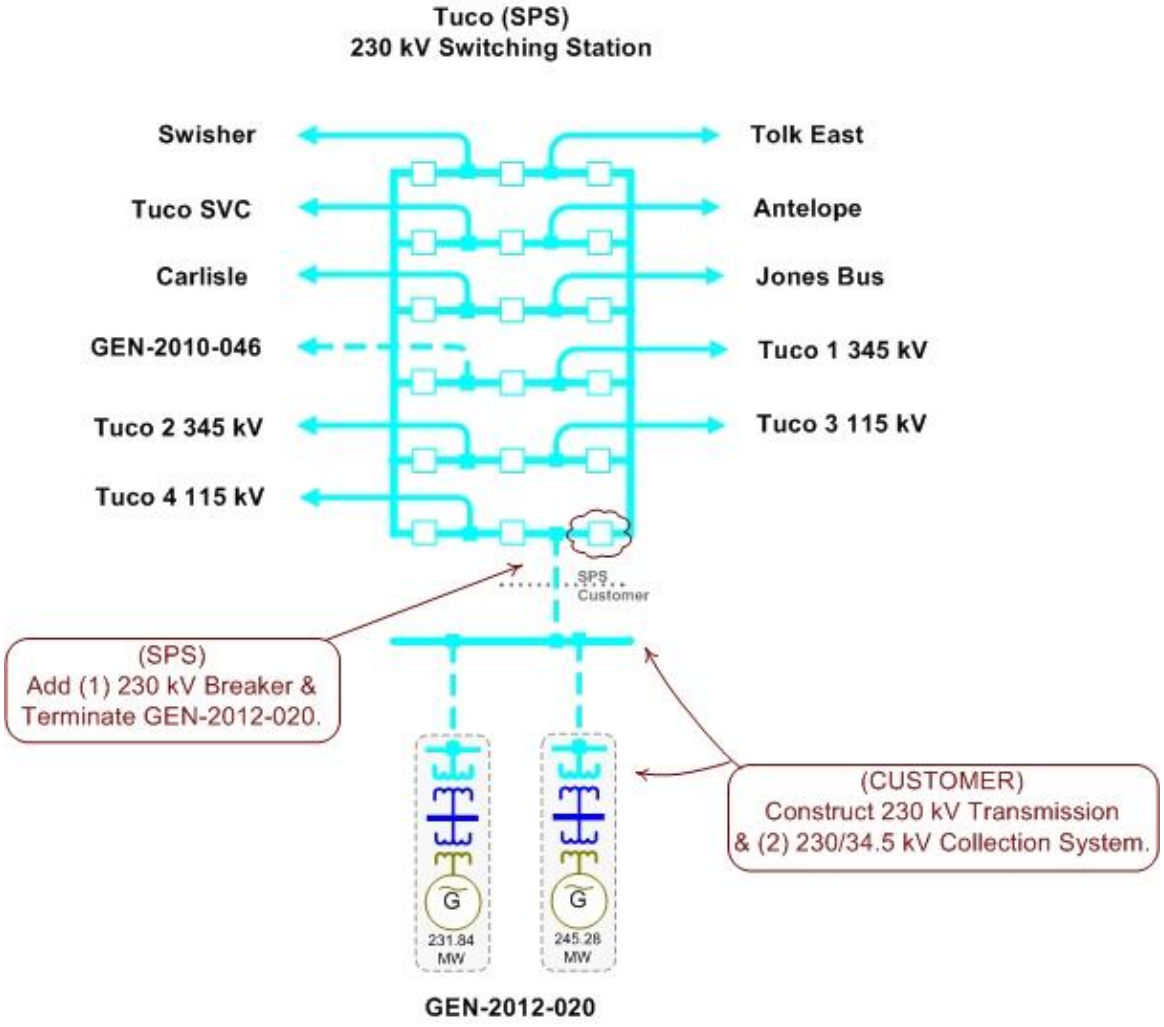
GEN-2012-017

GEN-2012-018

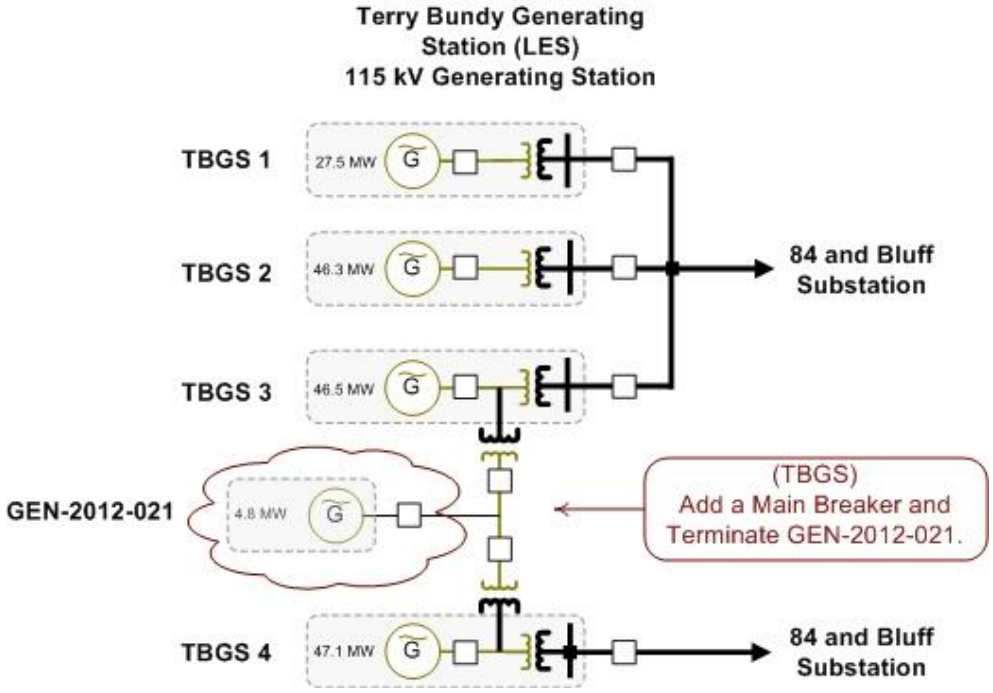


GEN-2012-018

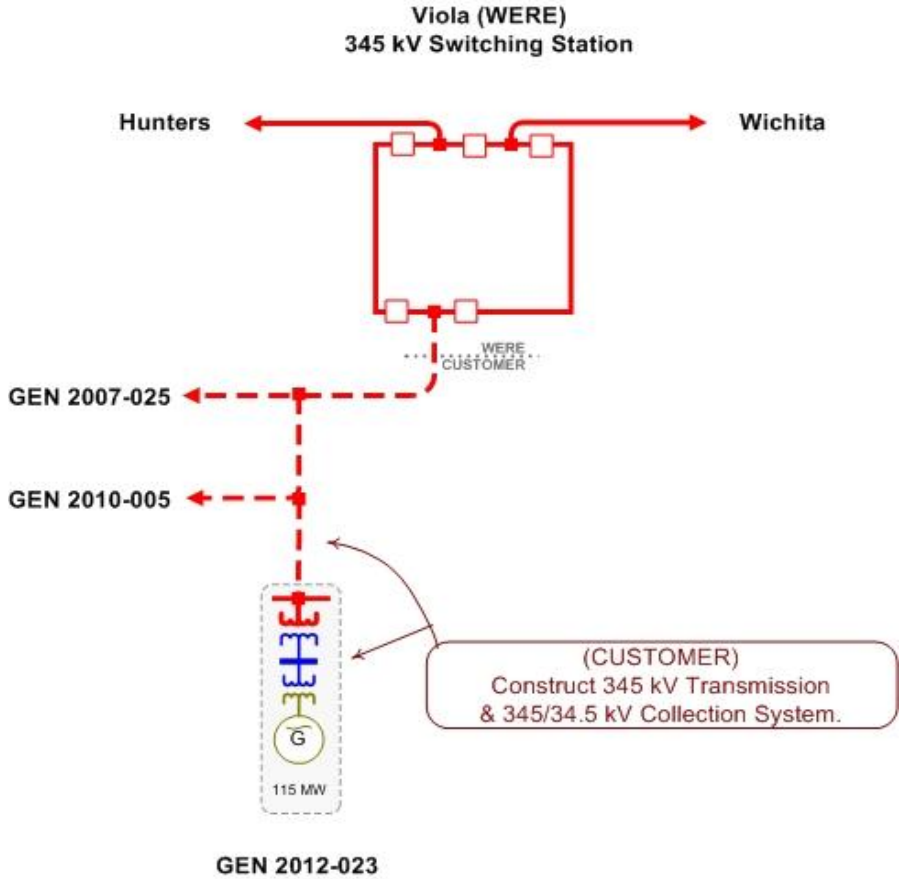
GEN-2012-020


Tuco (SPS)
230 kV Switching Station
Swisher
Tuco SVC
Carlisle
GEN-2010-046
Tuco 2 345 kV
Tuco 4 115 kV
Tolk East
Antelope
Jones Bus
Tuco 1 345 kV
Tuco 3 115 kV
SPS Customer
(SPS)
Add (1) 230 kV Breaker &
Terminate GEN-2012-020.
(CUSTOMER)
Construct 230 kV Transmission
& (2) 230/34.5 kV Collection System.
G
231.84 MW
G
245.28 MW
GEN-2012-020

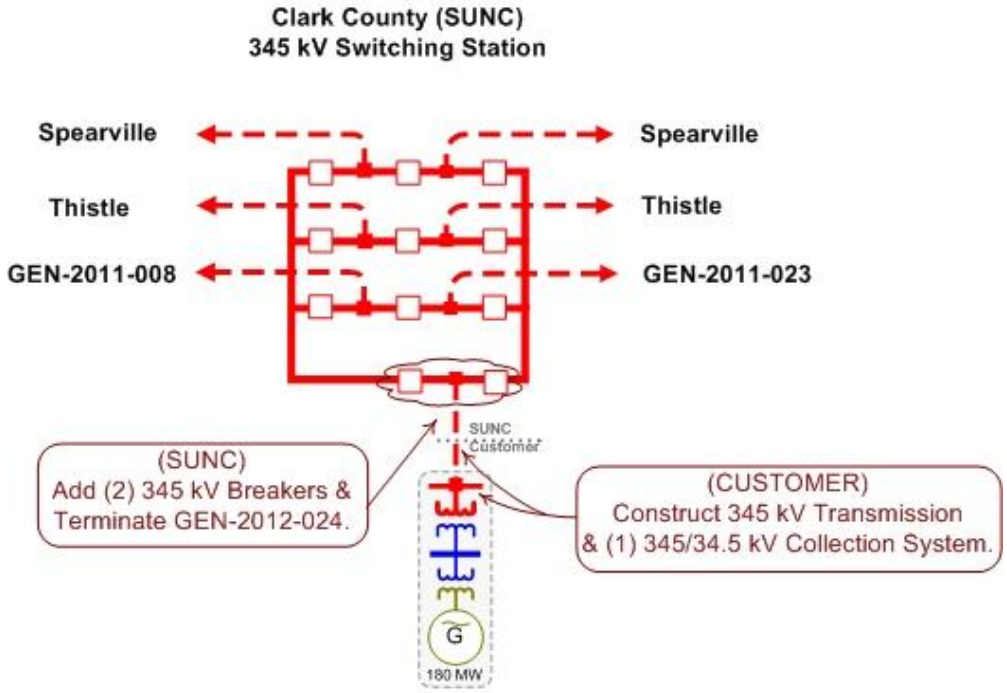
GEN-2012-021



GEN-2012-023

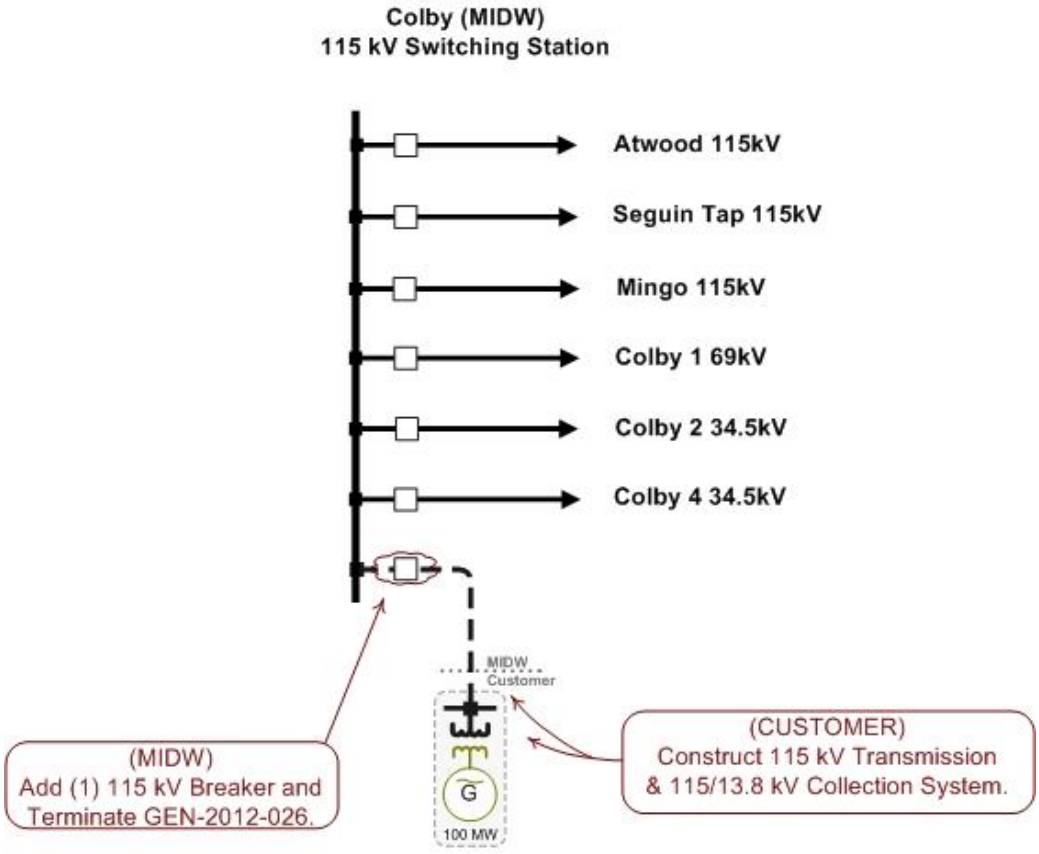


GEN-2012-024



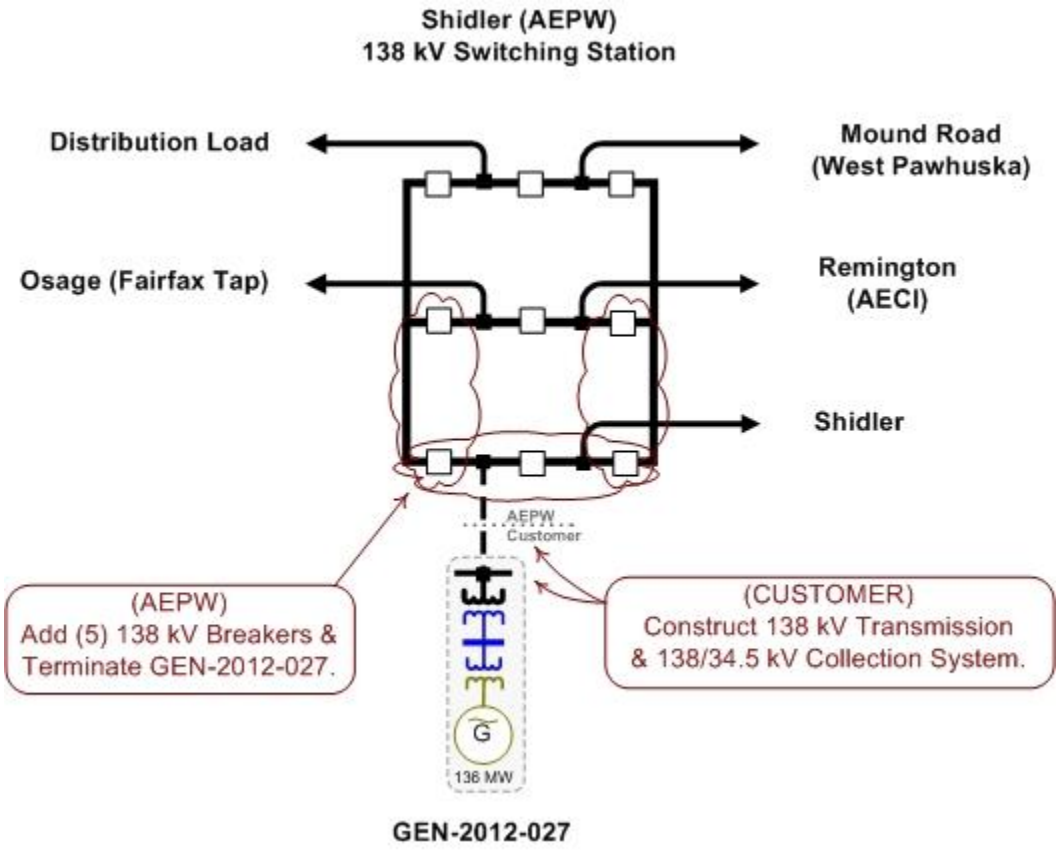
GEN-2012-024

GEN-2012-026

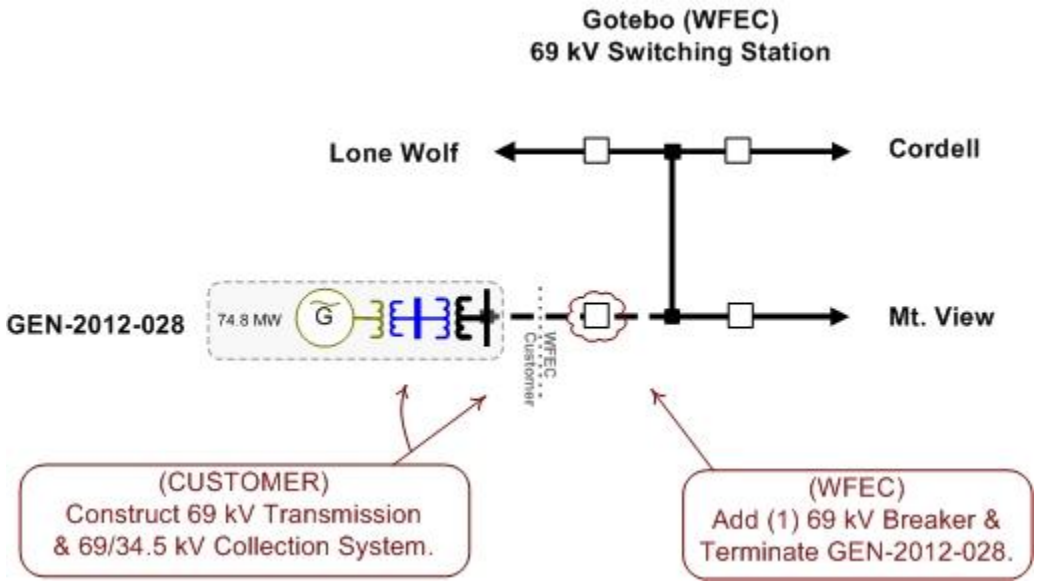


GEN-2012-026

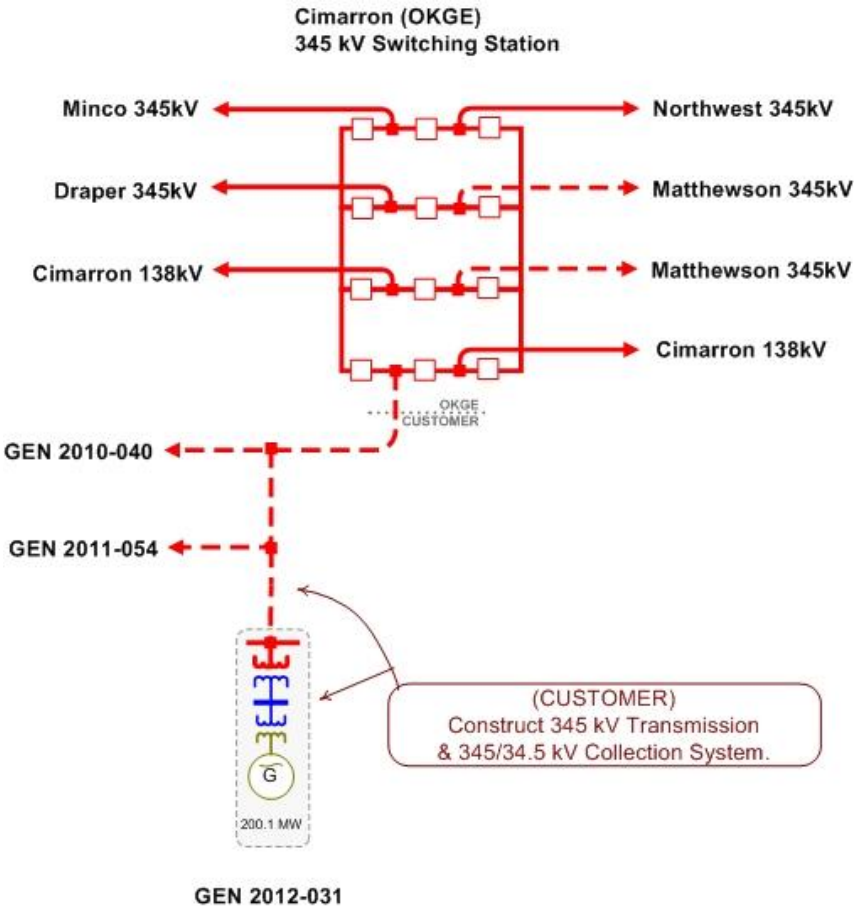
GEN-2012-027



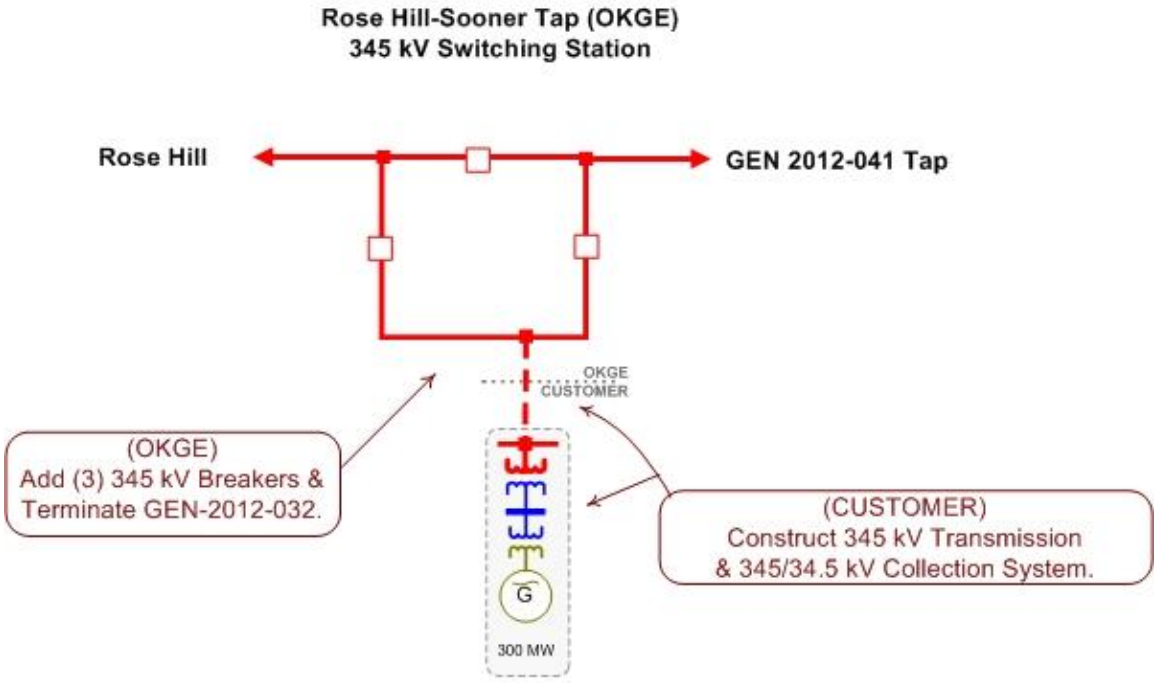
GEN-2012-028



GEN-2012-031

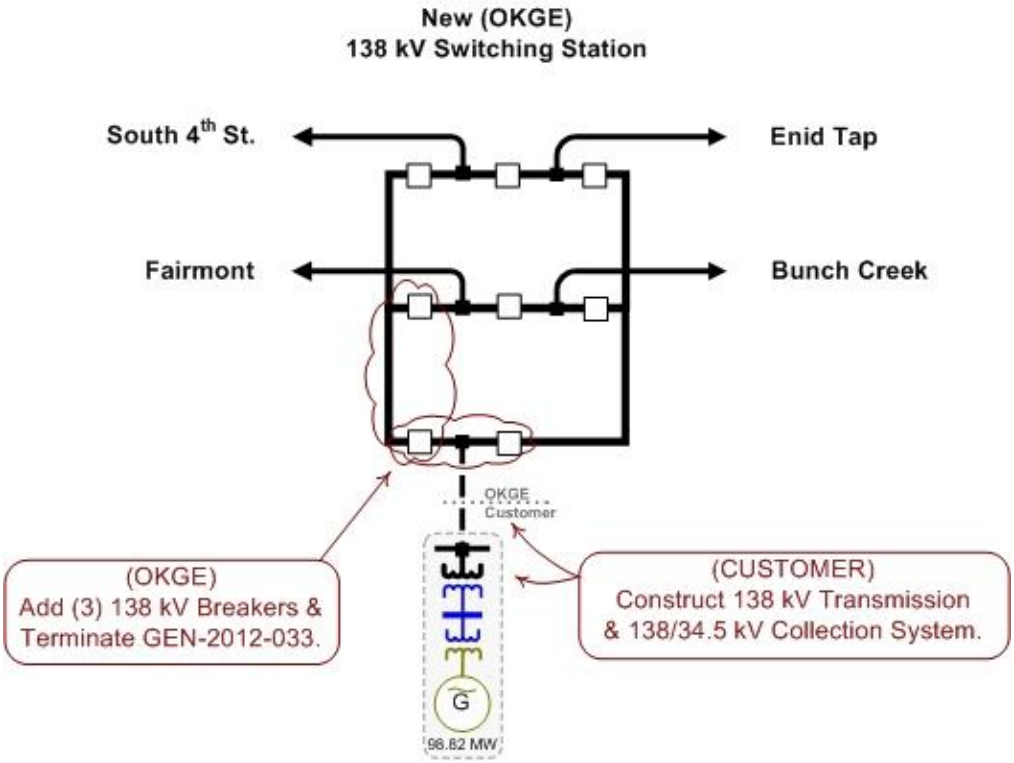

Cimarron (OKGE)
345 kV Switching Station
Minco 345kV
Draper 345kV
Cimarron 138kV
Northwest 345kV
Matthewson 345kV
Matthewson 345kV
Cimarron 138kV
OKGE
CUSTOMER
GEN 2010-040
GEN 2011-054
(CUSTOMER)
Construct 345 kV Transmission
& 345/34.5 kV Collection System.
G
200.1 MW
GEN 2012-031

GEN-2012-032



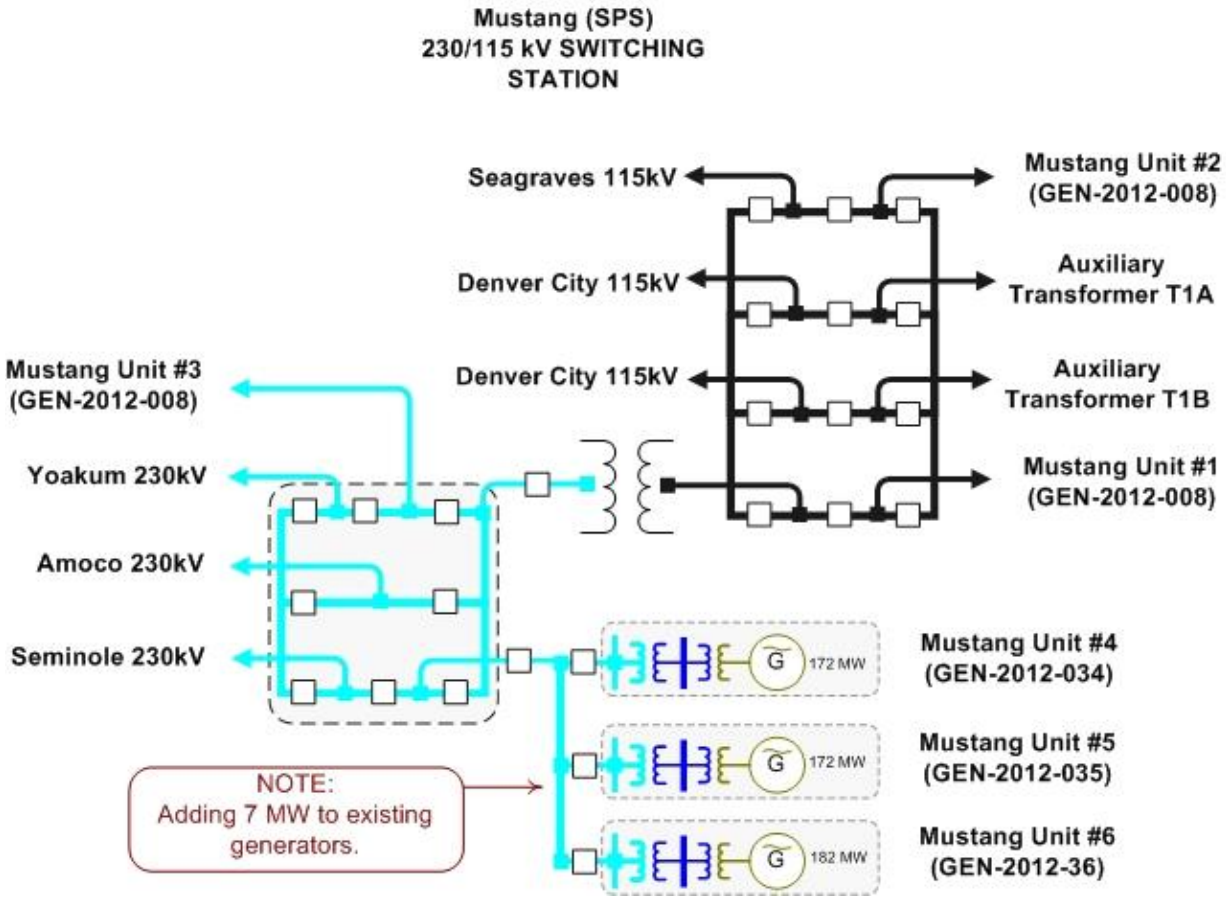
GEN 2012-032

GEN-2012-033

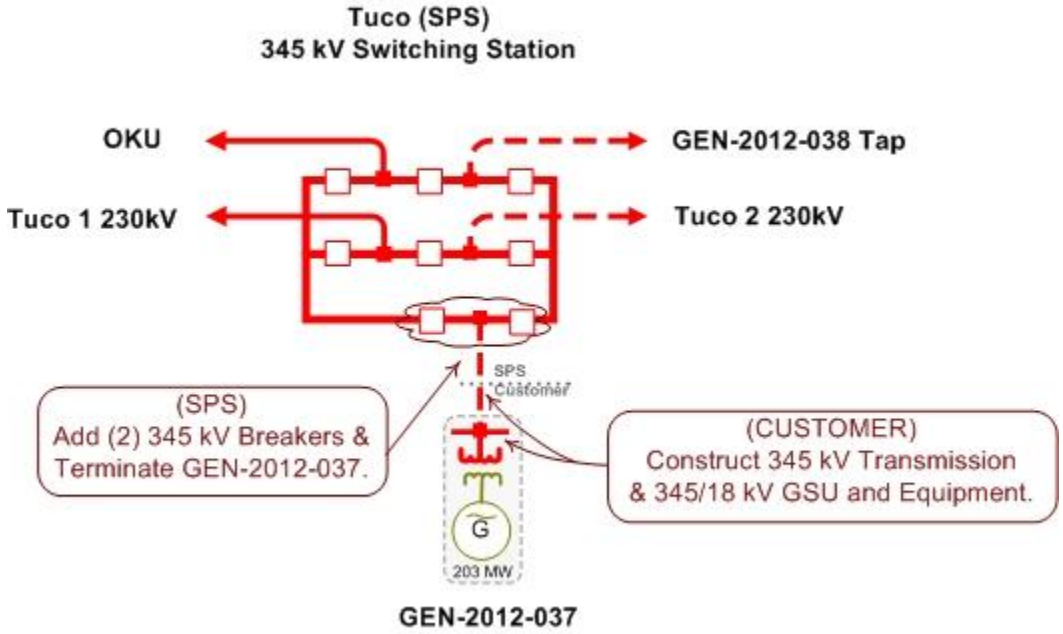


GEN-2012-033

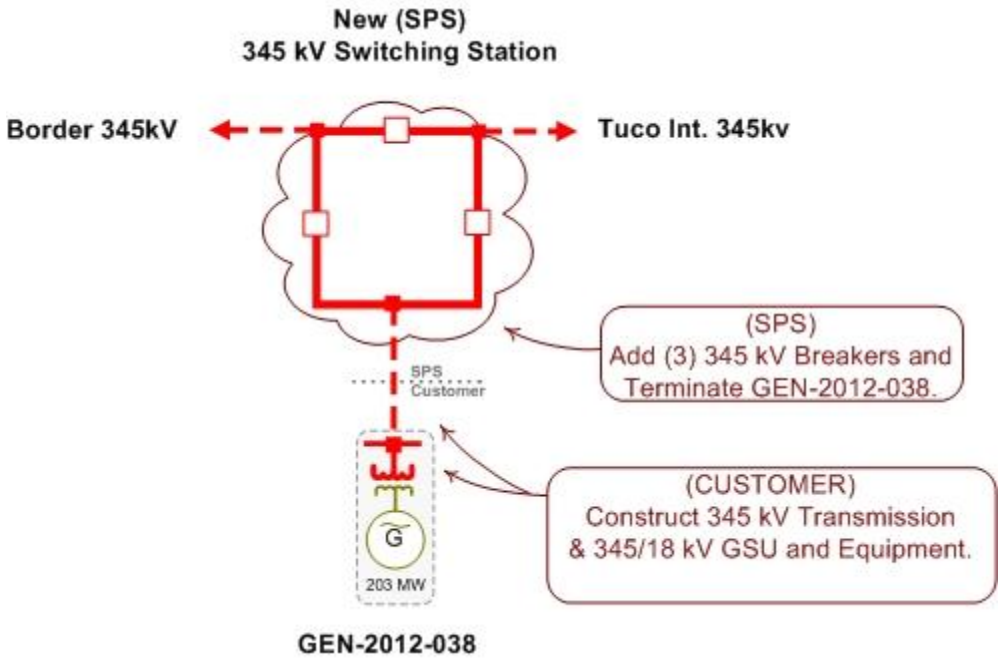
GEN-2012-034 035 036



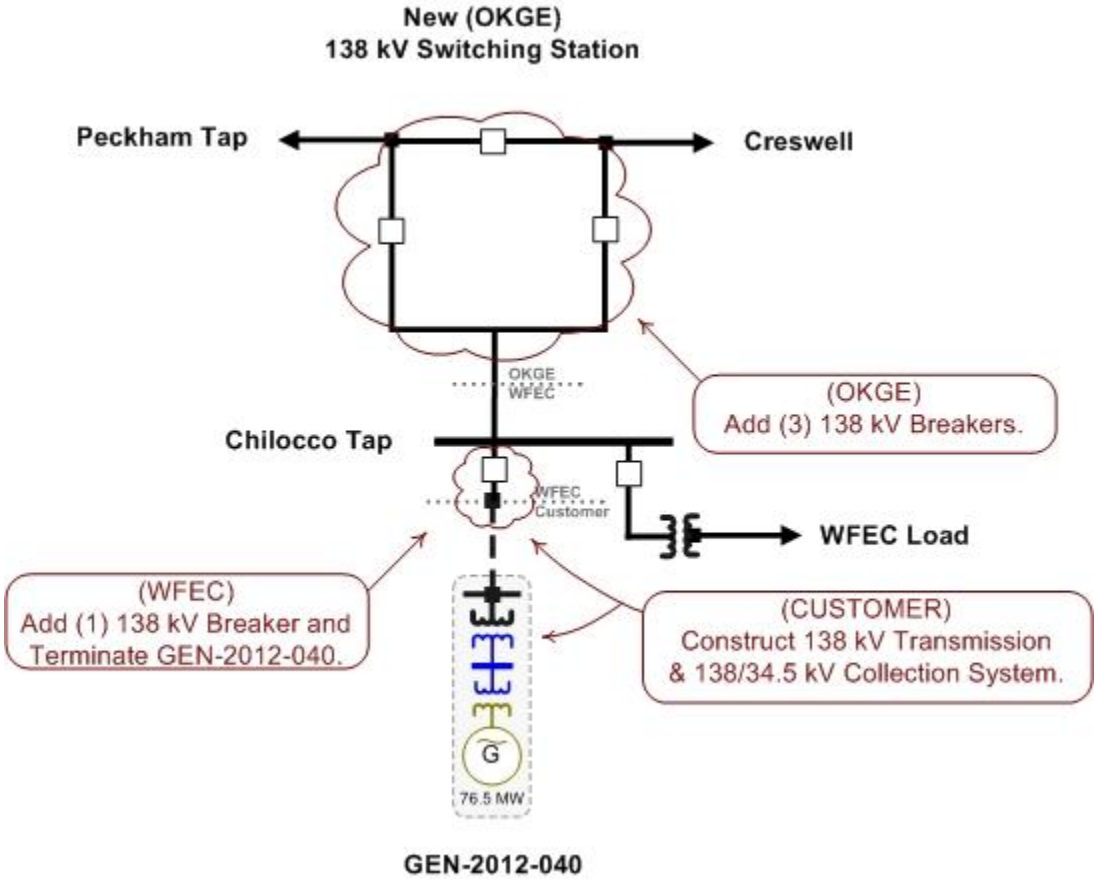
GEN-2012-037



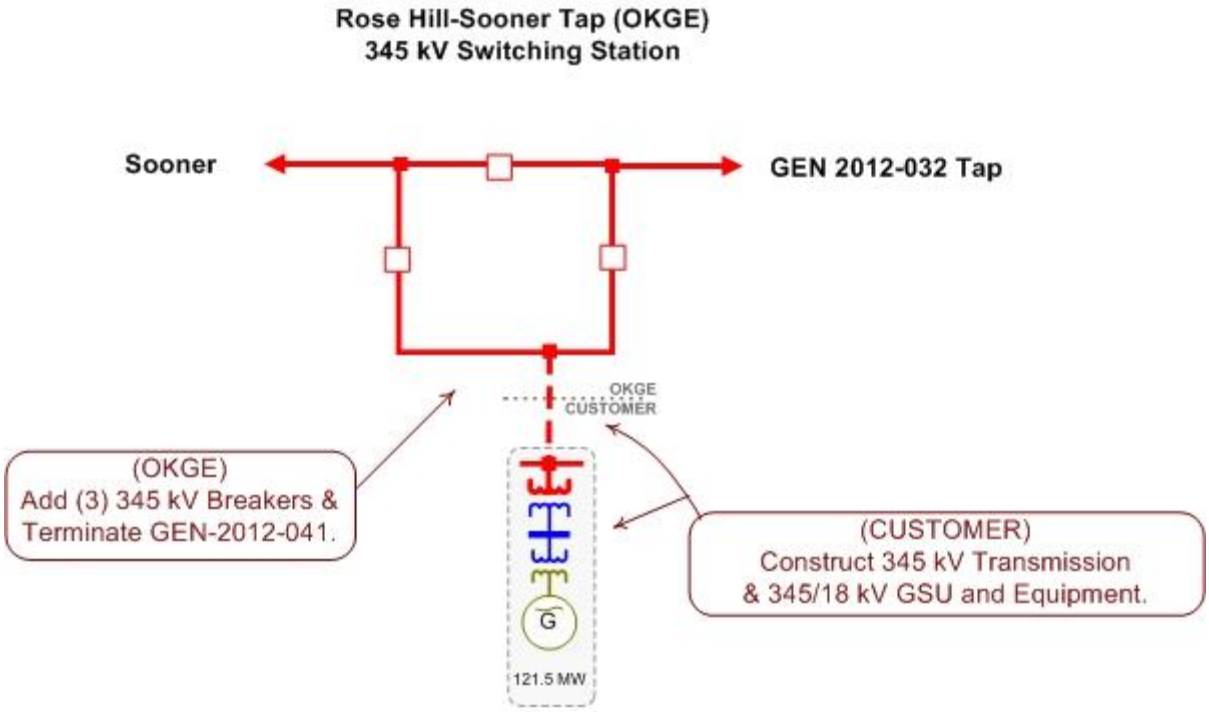
GEN-2012-038



GEN-2012-040



GEN-2012-041


Rose Hill-Sooner Tap (OKGE)
345 kV Switching Station
Sooner
GEN 2012-032 Tap
OKGE
CUSTOMER
(OKGE)
Add (3) 345 kV Breakers &
Terminate GEN-2012-041.
(CUSTOMER)
Construct 345 kV Transmission
& 345/18 kV GSU and Equipment.
G
121.5 MW
GEN 2012-041

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

Important Note:

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

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

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

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

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

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

Appendix E. Cost Allocation Per Request

(Including Previously Allocated Network Upgrades*)

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
ASGI-2012-002			
ASGI-2012-002 Interconnection Cost See One-Line Diagram.	Current Study	$0.00	$0.00
GEN-2012-038 Tap - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	$1,862,103.07	$141,869,298.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	$2,631,701.43	$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	$189,398.77	$13,000,000.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotranformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	$397,258.50	$15,000,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		$3,500,000.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Finney Switching Station - Holcomb 345KV CKT 2 Assigned to DISIS-2010-002 Customer	Previously Allocated		$10,507,445.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		$8,883,760.00
Nichols - Harrington Mid 230kV CKT 1 Per GEN-2008-051 LOIS: Rebuild approximately 1 mile of 230kV @ 1825 amps	Previously Allocated		$869,251.00
Nichols - Harrington West 230kV CKT 1 Per GEN-2008-051 LOIS: Rebuild approximately 1 mile of 230kV @ 1825 amps	Previously Allocated		$869,251.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		$300,000.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		$14,900,907.00
	Current Study Total	$5,080,461.77	
GEN-2012-016			
GEN-2012-016 Interconnection Cost See One-Line Diagram.	Current Study	$10,000,000.00	$10,000,000.00
Milan Tap 138kV Cap Bank Install 15MVar Cap Bank at Milan Tap 138kV	Current Study	$486,000.20	$750,000.00
Reno 345kV Cap Bank Install 240MVar Cap Bank at Reno 345kV	Current Study	$1,733,562.20	$6,000,000.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		$42,903,753.00
Mullergren - Reno 345kV Dbl CKT Build approximately 92 miles of new Dbl 345kV circuit from Mullergren - Reno @ 3000 amps	Previously Allocated		$210,887,465.33
Spearville - Mullergren 345kV Dbl CKT Build approximately 85 miles of new Dbl 345kV circuit from Spearville - Mullergren @ 3000 amps	Previously Allocated		$196,323,921.67
Tatonga - Matthewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Matthewson @ 3000 amps	Previously Allocated		$104,260,473.00
Thistle - Flat Ridge 138kV CKT 1 Priority Project: Thistle - Flat Ridge 138kV CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		$4,727,306.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
Thistle 345/138KV Transformer CKT 1 Priority Project: Thistle 345/138kV Transformer CKT 1 (Total Project E&C Cost Shown.)	Previously Allocated		$4,379,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
	Current Study Total	$12,219,562.40	
GEN-2012-017			
GEN-2012-017 Interconnection Cost See One-Line Diagram.	Current Study	$0.00	$0.00
Nashua 345/161/13.8KV Autotransformer CKT 1 Balanced Portfolio: Nashua/161/13.8 Autotransformer 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		$4,230,000.00
	Current Study Total	$0.00	
GEN-2012-018			
Dixon County - Rasmussen 230kV CKT 1 Build approximately 40 miles of new 230kV	Current Study	$40,000,000.00	$40,000,000.00
GEN-2012-018 Interconnection Cost See One-Line Diagram.	Current Study	$3,000,000.00	$3,000,000.00
Hoskins - Dixon County - Twin Church 230kV Rerate per NPPD Facility Study	Previously Allocated		$500,000.00
Twin Church - Dixon County 230kV Increase conductor clearances to accommodate 320MVA facility rating	Previously Allocated		$100,000.00
	Current Study Total	$43,000,000.00	
GEN-2012-020			
GEN-2012-020 Interconnection Cost See One-Line Diagram.	Current Study	$6,000,000.00	$6,000,000.00
GEN-2012-038 Tap - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	$66,476,665.37	$141,869,298.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	$85,144,134.60	$180,635,381.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Sweetwater Substation Build new Sweetwater Substation	Current Study	$6,127,668.59	$13,000,000.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotranformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	$13,984,627.78	$15,000,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		$3,500,000.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Finney Switching Station - Holcomb 345KV CKT 2 Assigned to DISIS-2010-002 Customer	Previously Allocated		$10,507,445.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		$8,883,760.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		$300,000.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		$14,900,907.00
	Current Study Total	$177,733,096.34	

GEN-2012-021

GEN-2012-021 Interconnection Cost See One-Line Diagram.	Current Study	$500,000.00	$500,000.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Harbine - Crete 115kV CKT 1 Build approximately 35 miles of 115kV from Harbine - Crete	Previously Allocated		$17,200,000.00
Nashua 345/161/13.8KV Autotransformer CKT 1 Balanced Portfolio: Nashua/161/13.8 Autotransformer 345kV CKT 1 (Total Project E&C Cost Shown).	Previously Allocated		$4,230,000.00
	Current Study Total	$500,000.00	
GEN-2012-023			
GEN-2012-023 Interconnection Cost See One-Line Diagram.	Current Study	$100,000.00	$100,000.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		$42,903,753.00
	Current Study Total	$100,000.00	
GEN-2012-024			
GEN-2012-024 Interconnection Cost See One-Line Diagram.	Current Study	$5,000,000.00	$5,000,000.00
Milan Tap 138kV Cap Bank Install 15MVar Cap Bank at Milan Tap 138kV	Current Study	$263,999.80	$750,000.00
Reno 345kV Cap Bank Install 240MVar Cap Bank at Reno 345kV	Current Study	$3,286,367.18	$6,000,000.00
Beaver County - Buckner 345kV Build approximately 90 miles of 345kV from Beaver County - Gray County @ 3000 amps	Previously Allocated		$170,209,050.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		$3,500,000.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Clark - Thistle 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$291,088,130.00
Hitchland 345/230kV Autotransformer CKT 2 Priority Project: Hitchland 345/230kV Autotransformer CKT 2 (Total Project E&C Cost Shown).	Previously Allocated		$8,883,760.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		$42,903,753.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Mullergren - Reno 345kV Dbl CKT Build approximately 92 miles of new Dbl 345kV circuit from Mullergren - Reno @ 3000 amps	Previously Allocated		$210,887,465.33
Post Rock 345/230/13.8kV Autotransformer CKT 2 DISIS-2010-001 Restudy	Previously Allocated		$13,749,527.00
Spearville - Mullergren 345kV Dbl CKT Build approximately 85 miles of new Dbl 345kV circuit from Spearville - Mullergren @ 3000 amps	Previously Allocated		$196,323,921.67
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$291,088,130.00
Tatonga - Matthewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Matthewson @ 3000 amps	Previously Allocated		$104,260,473.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$166,598,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		$14,900,907.00
	Current Study Total	$8,550,366.98	

GEN-2012-026

GEN-2012-026 Interconnection Cost See One-Line Diagram.	Current Study	$1,000,000.00	$1,000,000.00
Reno 345kV Cap Bank Install 240MVar Cap Bank at Reno 345kV	Current Study	$980,070.62	$6,000,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		$3,500,000.00
Clark - Thistle 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$291,088,130.00
FPL Switch - Woodward 138kV CKT 1 NRIS only required upgrade: Rebuild approximately 12 miles of 138kV line	Previously Allocated		$6,509,948.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Holcomb 345/115/13.8kV Transformer Build second 345/115/13.8kV transformer	Previously Allocated		$15,000,000.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		$42,903,753.00
Mullergren - Reno 345kV Dbl CKT Build approximately 92 miles of new Dbl 345kV circuit from Mullergren - Reno @ 3000 amps	Previously Allocated		$210,887,465.33
Spearville - Mullergren 345kV Dbl CKT Build approximately 85 miles of new Dbl 345kV circuit from Spearville - Mullergren @ 3000 amps	Previously Allocated		$196,323,921.67
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$291,088,130.00
Tatonga - Matthewson 345kV CKT 2 Build second 345kV circuit from Tatonga - Matthewson @ 3000 amps	Previously Allocated		$104,260,473.00
Thistle - Wichita 345KV Dbl CKT Priority Project: Thistle - Wichita Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$166,598,000.00
	Current Study Total	$1,980,070.62	
GEN-2012-027			
GEN-2012-027 Interconnection Cost See One-Line Diagram.	Current Study	$3,000,000.00	$3,000,000.00
Remington - Fairfax 138KV CKT 1 Increase conductor clearance	Current Study	$4,598,851.25	$5,000,000.00
	Current Study Total	$7,598,851.25	
GEN-2012-028			
GEN-2012-028 Interconnection Cost See One-Line Diagram.	Current Study	$1,300,000.00	$1,300,000.00
Lake Creek- Lone Wolf 69kV CKT 1 Reset CT.	Current Study	$197,972.00	$197,972.00
	Current Study Total	$1,497,972.00	
GEN-2012-031			
GEN-2012-031 Interconnection Cost See One-Line Diagram.	Current Study	$100,000.00	$100,000.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Matthewson - Cimarron 345kV CKT 2 Build second 345kV circuit from Matthewson - Cimarron @ 3000 amps	Previously Allocated		$42,903,753.00
Spearville -Clark 345KV Dbl CKT Priority Project: Spearville - Clark - Thistle Dbl 345kV CKT (Total Project E&C Cost Shown.)	Previously Allocated		$291,088,130.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		$14,900,907.00
	Current Study Total	$100,000.00	
GEN-2012-032			
GEN-2012-032 Interconnection Cost See One-Line Diagram.	Current Study	$10,000,000.00	$10,000,000.00
	Current Study Total	$10,000,000.00	
GEN-2012-033			
GEN-2012-033 Interconnection Cost See One-Line Diagram.	Current Study	$3,000,000.00	$3,000,000.00
	Current Study Total	$3,000,000.00	
GEN-2012-034			
GEN-2012-034 Interconnection Cost See One-Line Diagram.	Current Study	$0.00	$0.00
GEN-2012-038 Tap - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	$817,859.99	$141,869,298.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	$1,076,663.22	$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	$77,485.49	$13,000,000.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotranformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	$154,528.43	$15,000,000.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Amoco Wasson - Oxy Tap 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		$200,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Mustang - Denver North 115kV CKT 1 Reconductor approximately 3 miles of 115 kV @ 1900 amps	Previously Allocated		$2,154,989.00
Mustang - Denver South 115kV CKT 1 Reconductor approximately 3 miles of 115 kV @ 1900 amps	Previously Allocated		$2,137,372.00
Mustang - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		$200,000.00
Oxy Tap - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		$200,000.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
	Current Study Total	$2,281,065.56	
GEN-2012-035			
GEN-2012-035 Interconnection Cost See One-Line Diagram.	Current Study	$0.00	$0.00
GEN-2012-038 Tap - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	$817,859.99	$141,869,298.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	$1,076,663.22	$180,635,381.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Sweetwater Substation Build new Sweetwater Substation	Current Study	$77,485.49	$13,000,000.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotranformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	$154,528.43	$15,000,000.00
Amoco Wasson - Oxy Tap 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		$200,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Mustang - Denver North 115kV CKT 1 Reconductor approximately 3 miles of 115 kV @ 1900 amps	Previously Allocated		$2,154,989.00
Mustang - Denver South 115kV CKT 1 Reconductor approximately 3 miles of 115 kV @ 1900 amps	Previously Allocated		$2,137,372.00
Mustang - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		$200,000.00
Oxy Tap - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		$200,000.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
	Current Study Total	$2,126,537.13	

GEN-2012-036

GEN-2012-036 Interconnection Cost See One-Line Diagram.	Current Study	$0.00	$0.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2012-038 Tap - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	$817,859.99	$141,869,298.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	$1,076,663.22	$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	$77,485.49	$13,000,000.00
TUCO 345/230/13.2kV Autotransformer CKT 3 Build TUCO 345/230/13.2kV Autotranformer CKT 3 at new substation adjacent to the TUCO substation	Current Study	$154,528.43	$15,000,000.00
Amoco Wasson - Oxy Tap 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		$200,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Mustang - Denver North 115kV CKT 1 Reconductor approximately 3 miles of 115 kV @ 1900 amps	Previously Allocated		$2,154,989.00
Mustang - Denver South 115kV CKT 1 Reconductor approximately 3 miles of 115 kV @ 1900 amps	Previously Allocated		$2,137,372.00
Mustang - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		$200,000.00
Oxy Tap - Yoakum 230kV CKT 1 Replace line traps at both terminals	Previously Allocated		$200,000.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
	Current Study Total	$2,126,537.13	

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
GEN-2012-037			
GEN-2012-037 Interconnection Cost See One-Line Diagram.	Current Study	$8,000,000.00	$8,000,000.00
GEN-2012-038 Tap - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	$30,340,755.25	$141,869,298.00
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	$37,769,434.00	$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	$2,718,197.51	$13,000,000.00
Beaver County - Woodward 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Beaver County 345kV Expansion Beaver County Expansion: Tap & Tie in Hitchland - Woodward 345kV CKT 2	Previously Allocated		$3,500,000.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		$14,900,907.00
	Current Study Total	$78,828,386.76	
GEN-2012-038			
GEN-2012-038 Interconnection Cost See One-Line Diagram.	Current Study	$9,000,000.00	$9,000,000.00
GEN-2012-038 Tap - Sweetwater 345kV CKT 2 Build approximately 163 miles of new 345kV	Current Study	$40,736,194.35	$141,869,298.00

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

Interconnection Request and Upgrades	Upgrade Type	Allocated Cost	Upgrade Cost
Sweetwater - Gracemont 345kV CKT 1 Build approximately 107 miles of new 345kV	Current Study	$51,860,121.30	$180,635,381.00
Sweetwater Substation Build new Sweetwater Substation	Current Study	$3,732,278.66	$13,000,000.00
Border - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Border - Woodward 345KV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
Hitchland - Beaver County 345kV CKT 1 Priority Project: Hitchland - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$226,040,727.00
Power System Stabilizers (PSS) Install Power System Stabilizers @ Tolk(Units: 1,2) and Jones (Units: 1,2,3,4)	Previously Allocated		$300,000.00
Thistle - Woodward 345KV Dbl CKT Priority Project: Thistle - Woodward Dbl 345kV CKT (Total Project E&C Cost Shown)	Previously Allocated		$207,782,000.00
TUCO - GEN-2012-038 Tap 345kV CKT 1 Balanced Portfolio: Tuco - Woodward 345kV CKT 1 (Total Project E&C Cost Shown)	Previously Allocated		$249,247,072.00
TUCO Interchange 345/230/13.2KV Autotransformer CKT 2 Balanced Portfolio: TUCO 345/230 kV Transformer CKT 2 (Total Project E&C Cost Shown)	Previously Allocated		$14,900,907.00
	Current Study Total	$105,328,594.31	
GEN-2012-040			
Cimarron - Draper 345kV CKT 1 NRIS only required upgrade: Replace Cimarron Wave Trap and Draper CT @ 1600 amps	Current Study	$80,000.00	$80,000.00
GEN-2012-040 Interconnection Cost See One-Line Diagram.	Current Study	$6,000,000.00	$6,000,000.00
Remington - Fairfax 138KV CKT 1 Increase conductor clearance	Current Study	$401,148.75	$5,000,000.00
	Current Study Total	$6,481,148.75	
GEN-2012-041			
GEN-2012-041 Interconnection Cost See One-Line Diagram.	Current Study	$10,000,000.00	$10,000,000.00
	Current Study Total	$10,000,000.00	
	TOTAL CURRENT STUDY COSTS:	**$478,532,651.00**	

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

F: Cost Allocation per Proposed Study Network Upgrade

Important Note:

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

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

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

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

Appendix F. Cost Allocation by Upgrade

ASGI-2012-002 Interconnection Cost		**$0.00**
See One-Line Diagram.		
	ASGI-2012-002	$0.00
	Total Allocated Costs	**$0.00**
Cimarron - Draper 345kV CKT 1		**$80,000.00**
NRIS only required upgrade: Replace Cimarron Wave Trap and Draper CT @ 1600 amps		
	GEN-2012-040	$80,000.00
	Total Allocated Costs	**$80,000.00**
Dixon County - Rasmussen 230kV CKT 1		**$40,000,000.00**
Build approximately 40 miles of new 230kV		
	GEN-2012-018	$40,000,000.00
	Total Allocated Costs	**$40,000,000.00**
GEN-2012-016 Interconnection Cost		**$10,000,000.00**
See One-Line Diagram.		
	GEN-2012-016	$10,000,000.00
	Total Allocated Costs	**$10,000,000.00**
GEN-2012-017 Interconnection Cost		**$0.00**
See One-Line Diagram.		
	GEN-2012-017	$0.00
	Total Allocated Costs	**$0.00**
GEN-2012-018 Interconnection Cost		**$3,000,000.00**
See One-Line Diagram.		
	GEN-2012-018	$3,000,000.00
	Total Allocated Costs	**$3,000,000.00**
GEN-2012-020 Interconnection Cost		**$6,000,000.00**
See One-Line Diagram.		
	GEN-2012-020	$6,000,000.00
	Total Allocated Costs	**$6,000,000.00**
GEN-2012-021 Interconnection Cost		**$500,000.00**
See One-Line Diagram.		
	GEN-2012-021	$500,000.00

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

	Total Allocated Costs	**$500,000.00**

GEN-2012-023 Interconnection Cost **$100,000.00**

See One-Line Diagram.

GEN-2012-023	$100,000.00
Total Allocated Costs	**$100,000.00**

GEN-2012-024 Interconnection Cost **$5,000,000.00**

See One-Line Diagram.

GEN-2012-024	$5,000,000.00
Total Allocated Costs	**$5,000,000.00**

GEN-2012-026 Interconnection Cost **$1,000,000.00**

See One-Line Diagram.

GEN-2012-026	$1,000,000.00
Total Allocated Costs	**$1,000,000.00**

GEN-2012-027 Interconnection Cost **$3,000,000.00**

See One-Line Diagram.

GEN-2012-027	$3,000,000.00
Total Allocated Costs	**$3,000,000.00**

GEN-2012-028 Interconnection Cost **$1,300,000.00**

See One-Line Diagram.

GEN-2012-028	$1,300,000.00
Total Allocated Costs	**$1,300,000.00**

GEN-2012-031 Interconnection Cost **$100,000.00**

See One-Line Diagram.

GEN-2012-031	$100,000.00
Total Allocated Costs	**$100,000.00**

GEN-2012-032 Interconnection Cost **$10,000,000.00**

See One-Line Diagram.

GEN-2012-032	$10,000,000.00
Total Allocated Costs	**$10,000,000.00**

GEN-2012-033 Interconnection Cost **$3,000,000.00**

See One-Line Diagram.

GEN-2012-033	$3,000,000.00

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

Total Allocated Costs	**$3,000,000.00**	

GEN-2012-034 Interconnection Cost **$0.00**

See One-Line Diagram.

GEN-2012-034	$0.00	
Total Allocated Costs	**$0.00**	

GEN-2012-035 Interconnection Cost **$0.00**

See One-Line Diagram.

GEN-2012-035	$0.00	
Total Allocated Costs	**$0.00**	

GEN-2012-036 Interconnection Cost **$0.00**

See One-Line Diagram.

GEN-2012-036	$0.00	
Total Allocated Costs	**$0.00**	

GEN-2012-037 Interconnection Cost **$8,000,000.00**

See One-Line Diagram.

GEN-2012-037	$8,000,000.00	
Total Allocated Costs	**$8,000,000.00**	

GEN-2012-038 Interconnection Cost **$9,000,000.00**

See One-Line Diagram.

GEN-2012-038	$9,000,000.00	
Total Allocated Costs	**$9,000,000.00**	

GEN-2012-038 Tap - Sweetwater 345kV CKT 2 **$141,869,298.00**

Build approximately 163 miles of new 345kV

ASGI-2012-002	$1,862,103.07	
GEN-2012-020	$66,476,665.37	
GEN-2012-034	$817,859.99	
GEN-2012-035	$817,859.99	
GEN-2012-036	$817,859.99	
GEN-2012-037	$30,340,755.25	
GEN-2012-038	$40,736,194.35	
Total Allocated Costs	**$141,869,298.00**	

GEN-2012-040 Interconnection Cost **$6,000,000.00**

See One-Line Diagram.

GEN-2012-040	$6,000,000.00	

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

Total Allocated Costs	**$6,000,000.00**	

GEN-2012-041 Interconnection Cost **$10,000,000.00**

See One-Line Diagram.

	GEN-2012-041	$10,000,000.00
Total Allocated Costs	**$10,000,000.00**	

Lake Creek- Lone Wolf 69kV CKT 1 **$197,972.00**

Reset CT.

	GEN-2012-028	$197,972.00
Total Allocated Costs	**$197,972.00**	

Milan Tap 138kV Cap Bank **$750,000.00**

Install 15MVar Cap Bank at Milan Tap 138kV

	GEN-2012-016	$486,000.20
	GEN-2012-024	$263,999.80
Total Allocated Costs	**$750,000.00**	

Remington - Fairfax 138KV CKT 1 **$5,000,000.00**

Increase conductor clearance

	GEN-2012-027	$4,598,851.25
	GEN-2012-040	$401,148.75
Total Allocated Costs	**$5,000,000.00**	

Reno 345kV Cap Bank **$6,000,000.00**

Install 240MVar Cap Bank at Reno 345kV

	GEN-2012-016	$1,733,562.20
	GEN-2012-024	$3,286,367.18
	GEN-2012-026	$980,070.62
Total Allocated Costs	**$6,000,000.00**	

Sweetwater - Gracemont 345kV CKT 1 **$180,635,381.00**

Build approximately 107 miles of new 345kV

	ASGI-2012-002	$2,631,701.43
	GEN-2012-020	$85,144,134.60
	GEN-2012-034	$1,076,663.22
	GEN-2012-035	$1,076,663.22
	GEN-2012-036	$1,076,663.22
	GEN-2012-037	$37,769,434.00
	GEN-2012-038	$51,860,121.30

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

	Total Allocated Costs	**$180,635,381.00**

Sweetwater Substation		**$13,000,000.00**
Build new Sweetwater Substation		
	ASGI-2012-002	$189,398.77
	GEN-2012-020	$6,127,668.59
	GEN-2012-034	$77,485.49
	GEN-2012-035	$77,485.49
	GEN-2012-036	$77,485.49
	GEN-2012-037	$2,718,197.51
	GEN-2012-038	$3,732,278.66
	Total Allocated Costs	**$13,000,000.00**

TUCO 345/230/13.2kV Autotransformer CKT 3		**$15,000,000.00**
Build TUCO 345/230/13.2kV Autotranformer CKT 3 at new substation adjacent to the TUCO substation		
	ASGI-2012-002	$397,258.50
	GEN-2012-020	$13,984,627.78
	GEN-2012-034	$154,528.43
	GEN-2012-035	$154,528.43
	GEN-2012-036	$154,528.43
	Total Allocated Costs	**$15,000,000.00**

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

G: Power Flow Analysis (Constraints Used For Mitigation)

See next page.

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FNSL-Blown up	03ALL	0	13G	ASGI_12_002		Non-converged Contingency	1792	0.04092	-	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	9	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	100.3641	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	9	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	99.9000	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	13SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.4871	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	13SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	125.8828	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	0	13WP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.5860	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	13WP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	126.1171	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	0	18SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	126.3733	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	0	18WP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.8065	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	18WP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	126.0841	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.6660	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	125.7686	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	13SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.5129	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	13SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	125.7955	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	13WP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.6391	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	13WP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	126.0122	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	18SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	126.2719	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	18WP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.8127	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	18WP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	125.9401	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.6900	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	125.6773	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	100.3614	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	99.9000	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	100.2471	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	99.9000	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09BPSON_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	100.2425	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09BPSON_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	99.9000	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09G12_018	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	119.7092	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	119.0317	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09G12_018_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	119.6971	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	119.0565	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09G12_018_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	119.5876	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	119.0303	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09G12_018BPSON_HOSKINS	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	119.5737	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018BPSON_HOSKINS	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	119.0547	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.27511	100.6716	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.27497	101.4531	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.27497	100.1134	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FNSL-Blown up	03ALL	0	13G	G12_020		Non-converged Contingency	1792	0.03834	-	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	06G12_020	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.50829	116.9435	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06G12_020	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.50829	115.8023	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06G12_020	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.49683	114.4746	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	06G12_020	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.49683	113.1326	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FNSL-Blown up	03ALL	0	13G	G12_024		Non-converged Contingency	1792	0.11041	-	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	08G12_027	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48385	104.7309	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	08G12_027	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48385	104.3829	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	08G12_027	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48385	102.0763	DOMES - PAWHUSKA TAP 138KV CKT 1
FDNS	08G12_027	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48385	101.0066	DOMES - MOUND ROAD 138KV CKT 1
FDNS	00G12_028	0	18WP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61891	104.7649	GOTEBO - MOUNTAIN VIEW 69KV CKT 1
FDNS	00G12_028	0	18SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61889	105.2635	GOTEBO - MOUNTAIN VIEW 69KV CKT 1
FDNS	00G12_028	0	23SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61883	101.8018	GOTEBO - MOUNTAIN VIEW 69KV CKT 1
FDNS	00G12_028	0	13SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61665	105.2145	GOTEBO - MOUNTAIN VIEW 69KV CKT 1
FDNS	00G12_028	0	13WP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.61665	103.9724	GOTEBO - MOUNTAIN VIEW 69KV CKT 1
FDNS	00G12_028	0	18WP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.26983	104.7417	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G12_028	0	18SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.26977	118.9715	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G12_028	0	23SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.26976	124.6657	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G12_028	0	13WP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.26972	103.4364	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	00G12_028	0	13SP	G12_028	TO->FROM	LAKE CREEK - LONEWOLF 69KV CKT 1	48	0.2697	114.7373	ELK CITY (ELKCTY-4) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	08NR	0	13G	G12_040	'FROM->TO'	'4REMNGTON 138.00 - FAIRFAX 138KV CKT 1'	174	0.07993	100.3883	'SHIDLER - WEST PAWHUSKA 138KV CKT 1'
FDNS	08NR	0	13G	G12_040	'FROM->TO'	'4REMNGTON 138.00 - FAIRFAX 138KV CKT 1'	174	0.07993	100.0000	'PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1'
FDNS	00NR	0	13WP	G12_040	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	717	0.07116	100.5786	'ARCADIA - SEMINOLE 345KV CKT 1'
FDNS	00NR	0	13WP	G12_040	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	717	0.06039	100.8682	'LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1'
FDNS	00NR	0	18WP	G12_040	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	717	0.05878	100.0000	'LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1'
FDNS	00NR	0	18WP	G12_040	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	185	0.11218	106.0306	'G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1'
FDNS	00NR	0	13WP	G12_040	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	185	0.11155	104.2079	'G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1'
FDNS	00NR	0	18SP	G12_040	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.11095	118.8954	'G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1'
FDNS	00NR	0	13SP	G12_040	'TO->FROM'	'FPL SWITCH - WOODWARD 138KV CKT 1'	153	0.10716	129.4086	'G12-016 TAP 345.00 (MRLNDAUTO) 345/138/13.8KV TRANSFORMER CKT 1'
FDNS	08NR	2	13G	G12_040	'FROM->TO'	'4REMNGTON 138.00 - FAIRFAX 138KV CKT 1'	174	0.07976	100.0000	'SHIDLER - WEST PAWHUSKA 138KV CKT 1'
FDNS	00NR	2	13WP	G12_040	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	717	0.07164	101.4604	'ARCADIA - SEMINOLE 345KV CKT 1'
FDNS	00NR	2	13WP	G12_040	'FROM->TO'	'CIMARRON - DRAPER LAKE 345KV CKT 1'	717	0.06162	103.8420	'LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1'

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

See next page.

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FNSL-Blown up	01ALL	0	13G	ASGI_12_002		Non-converged Contingency	0	0.14939	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	0	13G	ASGI_12_002		Non-converged Contingency	0	0.14385	-	DBL-BVR-WWRD
FNSL-Blown up	03ALL	0	13G	ASGI_12_002		Non-converged Contingency	0	0.14175	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	0	13G	ASGI_12_002		Non-converged Contingency	0	0.13614	-	DBL-WICH-THI
FNSL-Blown up	03ALL	0	13G	ASGI_12_002		Non-converged Contingency	0	0.05732	-	DBL-SPRVL-MU
FNSL-Blown up	03ALL	0	13G	ASGI_12_002		Non-converged Contingency	0	0.05732	-	DBL-MUL-RENO
FNSL-Blown up	03ALL	2	13G	ASGI_12_002		Non-converged Contingency	0	0.14175	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	2	13G	ASGI_12_002		Non-converged Contingency	0	0.13614	-	DBL-WICH-THI
FNSL-Blown up	03ALL	2	13G	ASGI_12_002		Non-converged Contingency	0	0.05732	-	DBL-SPRVL-MU
FNSL-Blown up	03ALL	2	13G	ASGI_12_002		Non-converged Contingency	0	0.05732	-	DBL-MUL-RENO
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	TUCO INTERCHANGE (GE_M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.38104	110.8063	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	TUCO INTERCHANGE (GE_M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.38104	109.9594	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.37246	108.4643	TUCO INTERCHANGE (GE_M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.37246	107.4656	TUCO INTERCHANGE (GE_M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	01ALL	0	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08867	101.3768	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	0	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.07981	102.5472	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0798	102.5429	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.07978	103.8472	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07548	100.2155	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07548	100.1709	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06764	103.2595	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06764	103.2451	SPP-SWPS-K37
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06764	103.245	LAMB COUNTY INTERCHANGE (WH_ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06764	103.2131	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06764	103.1987	SPP-SWPS-K37
FDNS	06ALL	0	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06764	103.1986	LAMB COUNTY INTERCHANGE (WH_ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06074	101.6639	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06073	101.6608	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06072	102.7298	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05066	106.7135	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05066	106.7111	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00ASGI_12_002	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05065	107.6684	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	1	0	13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05019	142.7128	DBL-WWRD-G12
FDNS	01ALL	0	13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05007	171.7453	DBL-WWRD-G12
FDNS	0	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04972	118.2437	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04972	103.0881	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04972	118.2411	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04972	103.0856	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	00ASGI_12_002	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04971	118.7733	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00ASGI_12_002	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04971	103.9444	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04914	113.4424	BASE CASE
FDNS	00_HOSKINSLDOFF	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04913	113.4422	BASE CASE
FDNS	00ASGI_12_002	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04912	114.5224	BASE CASE
FDNS	01ALL	0	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04017	103.0593	GRACEMONT - MINCO 345KV CKT 1
FDNS	0	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03822	120.8851	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03822	120.8833	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	0	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03821	121.4871	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	1	0	13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03371	114.3676	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	0	13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03369	137.0683	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	0	0	18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03196	103.2577	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	0	0	18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03196	102.4384	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03195	103.2391	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03195	102.4204	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	0	18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03195	104.0937	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	0	18SP	ASGI_12_002	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	112	0.03195	103.3495	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09619	118.1195	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09619	117.6652	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09523	102.7525	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08652	107.3816	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07834	101.0986	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07806	103.985	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.078	102.4822	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07773	107.9441	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07706	107.0098	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07691	103.1814	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07678	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07678	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07618	106.3021	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07584	110.481	SPP-WERE-91
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07584	110.4808	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07584	110.4769	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07584	109.9651	SPP-WERE-90
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07584	109.9648	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07584	109.9626	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FNSL	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0758	101.36	MINGO - SETAB 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07547	104.4955	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07539	102.6781	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07483	106.1985	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07473	109.1911	WRTOD400
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07464	99.9	SPP-MKEC-08
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0746	108.7004	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07452	100.3236	FLATRDG3 - HARPER 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07452	99.9903	HARPER - MILAN TAP 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07452	99.9	SPP-MKEC-05
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07452	99.9	SPP-WEPL-03
FDNS	3	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07408	106.434	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07384	117.2354	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07384	114.9487	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07384	109.5499	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07329	104.788	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07329	103.9948	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07329	104.2392	SPP-WERE-32
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	103.1723	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	103.0914	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	101.3313	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	100.8867	SPP-WERE-28
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	100.6972	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07262	126.5732	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07262	107.9961	BASE CASE
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07262	100.5145	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07262	100.5097	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06985	100.9371	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06888	100.9096	BEAVER CO 345.00 - BUCKNER7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06531	101.9202	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0641	100.4102	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05508	99.9	DBL-WWRD-G12
FDNS	6	0	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0508	123.6949	DBL-WWRD-G12
FDNS	06ASGI_12_002	0	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0508	123.8121	DBL-WWRD-G12
FDNS	06ALL	0	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05054	136.1485	DBL-WWRD-G12
FDNS	1	0	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05019	216.7735	DBL-WWRD-G12
FDNS	01ALL	0	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05007	258.5731	DBL-WWRD-G12
FDNS	03ALL	0	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04352	107.4979	DBL-G1216-TH
FDNS	06ALL	0	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03407	107.1145	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	1	0	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03371	165.2434	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	0	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03369	192.72	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ALL	2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07524	99.9	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL	2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07524	99.9	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL	2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06779	103.2969	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06779	103.2824	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06ALL	2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06779	103.2824	SPP-SWPS-K37
FDNS	06ALL	2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06779	103.2508	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06779	103.2364	LAMB COUNTY INTERCHANGE (WH ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06ALL	2	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06779	103.2364	SPP-SWPS-K37
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09619	116.1451	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09619	115.7279	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09523	102.0474	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08652	107.034	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07834	100.3605	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07806	103.6798	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.078	101.756	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07773	107.6639	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07706	105.3637	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07691	102.0192	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07678	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07678	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07618	105.9761	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07585	110.1671	SPP-WERE-91
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07585	110.1668	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07585	110.1631	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07585	109.6503	SPP-WERE-90
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07585	109.6496	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07585	109.6478	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0758	100.4402	MINGO - SETAB 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07548	104.173	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07539	101.0853	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07484	105.8937	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07473	108.9491	WRTOD400
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0746	108.4054	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07385	116.8982	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07385	114.5841	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07385	109.0615	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07329	104.4452	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07329	103.7079	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07329	103.9362	SPP-WERE-32
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	102.8508	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	102.7686	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	101.0284	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	100.5907	SPP-WERE-28
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07302	100.3878	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07262	125.9238	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07262	107.6631	BASE CASE
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07262	100.2042	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07262	100.1906	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06986	100.662	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06531	101.6933	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0641	100.1245	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	6	2	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05092	123.7654	DBL-WWRD-G12
FDNS	06ALL	2	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05066	136.215	DBL-WWRD-G12
FDNS	03ALL	2	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04352	106.3527	DBL-G1216-TH
FDNS	06ALL	2	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03416	107.1791	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ALL	3	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08899	100.6326	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	3	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08899	100.5881	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	3	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08304	107.2229	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	3	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06863	103.1882	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	3	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06863	103.1754	LAMB COUNTY INTERCHANGE (WH_ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06ALL	3	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06863	103.1754	SPP-SWPS-K37
FDNS	06ALL	3	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06863	103.1433	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	3	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06863	103.1305	LAMB COUNTY INTERCHANGE (WH_ALM20172) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	06ALL	3	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06863	103.1305	SPP-SWPS-K37
FDNS	00ASGI_12_002	3	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06362	105.5629	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	3	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05298	109.8782	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00ASGI_12_002	3	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05212	102.0478	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	3	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05205	120.8373	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00ASGI_12_002	3	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05205	106.1928	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	00ASGI_12_002	3	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05205	100.7598	SOUTH PLAINS REC-QUAKER - South Plains REC-Frankford Sub 115KV CKT 1
FDNS	00ASGI_12_002	3	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05139	117.3595	BASE CASE
FDNS	00ASGI_12_002	3	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03983	122.9669	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	3	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04007	113.4253	DBL-WWRD-G12
FDNS	0	0	13WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03589	124.4558	DBL-WICH-THI
FDNS	00_HOSKINSLDOFF	0	13WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03589	124.4301	DBL-WICH-THI
FDNS	00G12_016	0	13WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03589	124.4376	DBL-WICH-THI
FDNS	0	0	18WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03528	127.7779	DBL-WICH-THI
FDNS	00G12_016	0	18WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03528	127.7574	DBL-WICH-THI
FDNS	00_HOSKINSLDOFF	0	18WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03527	127.7497	DBL-WICH-THI
FDNS	0	0	13WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03589	100.7963	DBL-WICH-THI
FDNS	00_HOSKINSLDOFF	0	13WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03589	100.774	DBL-WICH-THI
FDNS	00G12_016	0	13WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03589	100.7804	DBL-WICH-THI
FDNS	0	0	18WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03528	103.3908	DBL-WICH-THI
FDNS	00G12_016	0	18WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03528	103.3709	DBL-WICH-THI
FDNS	00_HOSKINSLDOFF	0	18WP	G12_016	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03527	103.3664	DBL-WICH-THI
FNSL-Blown up	00G12_018	0	13WP	G12_018		Non-converged Contingency	0	0.09455	-	ATC_B2_8E2
FNSL-Blown up	03ALL	0	13G	G12_018		Non-converged Contingency	0	0.05191	-	DBL-THIS-CLR
FNSL-Blown up	01ALL	0	13G	G12_018		Non-converged Contingency	0	0.04196	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	0	13G	G12_018		Non-converged Contingency	0	0.03431	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	2	13G	G12_018		Non-converged Contingency	0	0.05191	-	DBL-THIS-CLR
FNSL-Blown up	03ALL	2	13G	G12_018		Non-converged Contingency	0	0.03431	-	DBL-TGA-MATT
FDNS	09ALL	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	127.4409	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09ALL	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.4915	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09ALL_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	127.3836	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09ALL_BPSON	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.4988	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09ALL_BPSON_HOSKINS	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	127.3138	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09ALL_BPSON_HOSKINS	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.4987	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09ALL_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	320	1	127.3166	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09ALL_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	1	126.4902	G10-51T 230.00 - HOSKINS 230KV CKT 1
FDNS	09ALL_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1	336	0.72497	104.1048	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09ALL_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1	336	0.72497	101.2391	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09ALL_BPSON_HOSKINS	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1	336	0.72496	104.0041	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09ALL_BPSON_HOSKINS	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1	336	0.72496	101.1447	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09ALL_BPSON_HOSKINS	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	0.62293	102.6767	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1
FDNS	09ALL_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	G10-51T 230.00 - TWIN CHURCH 230KV CKT 1	320	0.62293	102.2067	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1
FDNS	09ALL_BPSON_HOSKINS	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.37707	103.2254	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1
FDNS	09ALL_BPSON_HOSKINS	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.37707	101.8718	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1
FDNS	09ALL_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.37707	104.0275	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1
FDNS	09ALL_HOSKINSLDOFF	0	13G	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.37707	102.6708	HOSKINS (HOSKINS T2) 345/230/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.12215	107.6051	TRF-HOSKINS
FDNS	00G12_018_HOSKINSLDOFF	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.12215	105.8205	TRF-HOSKINS
FDNS	00G12_018_HOSKINSLDOFF	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.12195	104.8603	TRF-HOSKINS
FDNS	00G12_018_HOSKINSLDOFF	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.12195	103.3008	TRF-HOSKINS

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00G12_018	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.10008	104.0386	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.10008	102.5626	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.10008	111.2574	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.10008	109.8697	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.0996	106.9438	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.0996	105.1925	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.0996	114.1541	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.0996	112.4747	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	0	23SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.09579	102.2652	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	06ALL	0	13G	G12_018	FROM->TO	TUCXFR345230	300	0.03448	119.1	BASE CASE
FDNS	03ALL	0	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03833	117.2354	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	0	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03833	114.9487	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03833	109.5499	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03388	107.4979	DBL-G1216-TH
FDNS	00G12_018_HOSKINSLDOFF	2	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.08457	104.2152	TRF-HOSKINS
FDNS	00G12_018_HOSKINSLDOFF	2	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.08457	102.4432	TRF-HOSKINS
FDNS	00G12_018_HOSKINSLDOFF	2	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.08452	101.2123	TRF-HOSKINS
FDNS	00G12_018	2	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07227	100.8198	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	2	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07227	107.5905	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	2	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07227	106.2826	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018	2	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07173	103.8858	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018	2	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07173	102.2217	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	2	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07173	110.6087	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	00G12_018_HOSKINSLDOFF	2	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.07173	109.0048	HOSKINS (HOSKN T4) 345/115/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03833	116.8982	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	2	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03833	114.5841	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03833	109.0615	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03388	106.3527	DBL-G1216-TH
FNSL-Blown up	01ALL	0	13G	G12_020		Non-converged Contingency	0	0.13807	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	0	13G	G12_020		Non-converged Contingency	0	0.13043	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	0	13G	G12_020		Non-converged Contingency	0	0.12972	-	DBL-WICH-THI
FNSL-Blown up	03ALL	0	13G	G12_020		Non-converged Contingency	0	0.06776	-	DBL-BVR-WWRD
FNSL-Blown up	03ALL	0	13G	G12_020		Non-converged Contingency	0	0.04992	-	DBL-SPRVL-MU
FNSL-Blown up	03ALL	0	13G	G12_020		Non-converged Contingency	0	0.04992	-	DBL-MUL-RENO
FNSL-Blown up	03ALL	2	13G	G12_020		Non-converged Contingency	0	0.13043	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	2	13G	G12_020		Non-converged Contingency	0	0.12972	-	DBL-WICH-THI
FNSL-Blown up	03ALL	2	13G	G12_020		Non-converged Contingency	0	0.04992	-	DBL-SPRVL-MU
FNSL-Blown up	03ALL	2	13G	G12_020		Non-converged Contingency	0	0.04992	-	DBL-MUL-RENO
FDNS	06ALL	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.50811	110.8063	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06ALL	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1	560	0.50811	109.9594	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2
FDNS	06ALL	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.49666	108.4643	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	06ALL	0	13G	G12_020	FROM->TO	TUCO INTERCHANGE (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	560	0.49666	107.4656	TUCO INTERCHANGE (GE M1022338) 345/230/13.2KV TRANSFORMER CKT 1
FDNS	01ALL	0	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09145	101.3768	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00G12_020	0	13WP	G12_020	FROM->TO	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	287	0.08787	100.9647	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	1	0	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05194	142.7128	DBL-WWRD-G12
FDNS	01ALL	0	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.05183	171.7453	DBL-WWRD-G12
FDNS	0	0	23SP	G12_020	FROM->TO	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2	351	0.03829	104.4884	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	23SP	G12_020	FROM->TO	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2	351	0.03829	104.4887	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	00G12_020	0	23SP	G12_020	FROM->TO	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2	351	0.03829	108.8396	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	1	0	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03499	114.3676	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	0	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03498	137.0683	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	0	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03348	103.0593	GRACEMONT - MINCO 345KV CKT 1
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.11531	100.4871	SPP-SWPS-01
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.11129	111.8899	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.11129	99.9	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.10603	101.3664	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_020	0	18WP	G12_020	TO->FROM	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1	361	0.09594	107.1063	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09581	102.7525	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08839	118.1195	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08839	117.6652	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.08636	109.2357	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1
FDNS	00G12_020	0	13WP	G12_020	TO->FROM	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1	361	0.08131	101.2473	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08059	107.3816	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07218	101.0986	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07197	103.985	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07193	102.4822	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07145	107.9441	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07092	107.0098	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07053	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07053	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07047	103.1814	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0701	106.3021	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	110.481	SPP-WERE-91
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	110.4808	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	110.4769	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	109.9651	SPP-WERE-90

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	109.9648	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	109.9626	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FNSL	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06948	101.36	MINGO - SETAB 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06943	104.4955	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06929	102.6781	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06874	106.1985	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06864	109.1911	WRTOD400
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06863	99.9	SPP-MKEC-08
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06852	108.7004	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06848	100.3236	FLATRDG3 - HARPER 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06848	99.9903	HARPER - MILAN TAP 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06848	99.9	SPP-MKEC-05
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06848	99.9	SPP-WEPL-03
FDNS	3	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06816	106.434	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	HALE CO INTERCHANGE - TUCO INTERCHANGE 115KV CKT 1	96	0.06734	102.6212	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06726	104.788	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06726	103.9948	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06726	104.2392	SPP-WERE-32
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	103.1723	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	103.0914	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	101.3313	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	100.8867	SPP-WERE-28
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	100.6972	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0667	126.5732	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0667	107.9961	BASE CASE
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0667	100.5145	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0667	100.5097	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06573	117.2354	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06573	114.9487	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06573	109.5499	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06389	100.9371	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06327	100.9096	BEAVER CO 345.00 - BUCKNER7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05953	101.9202	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05795	100.4102	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	HALE CO INTERCHANGE - TUCO INTERCHANGE 115KV CKT 1	96	0.05582	106.0013	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	6	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05256	123.6949	DBL-WWRD-G12
FDNS	06G12_020	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05231	137.3277	DBL-WWRD-G12
FDNS	06ALL	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05229	136.1485	DBL-WWRD-G12
FDNS	1	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05194	216.7735	DBL-WWRD-G12
FDNS	01ALL	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05183	258.5731	DBL-WWRD-G12
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04865	99.9	DBL-WWRD-G12
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	HALE CO INTERCHANGE - TUCO INTERCHANGE 115KV CKT 1	96	0.03702	100.3263	LAMB COUNTY REC-SOUTH OLTON - PLANT X STATION 115KV CKT 1
FDNS	03ALL	0	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03679	107.4979	DBL-G1216-TH
FDNS	06G12_020	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03537	107.9406	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ALL	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03536	107.1145	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	1	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03499	165.2434	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	0	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03498	192.72	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	0	0	13SP	G12_020	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03425	116.4011	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_020	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03424	116.405	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_020	0	13SP	G12_020	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03413	129.6122	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.09582	102.0474	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08839	116.1451	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08839	115.7279	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.08059	107.034	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07218	100.3605	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07197	103.6798	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07193	101.756	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07145	107.6639	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07092	105.3637	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07053	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07053	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07048	102.0192	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0701	105.9761	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	110.1671	SPP-WERE-91
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	110.1668	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	110.1631	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	109.6503	SPP-WERE-90
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	109.6496	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06954	109.6478	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06948	100.4402	MINGO - SETAB 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06943	104.173	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06929	101.0853	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06874	105.8937	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06864	108.9491	WRTOD400
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06852	108.4054	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06727	104.4452	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06727	103.7079	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06727	103.9362	SPP-WERE-32
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	102.8508	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	102.7686	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	101.0284	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	100.5907	SPP-WERE-28
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06702	100.3878	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0667	125.9238	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0667	107.6631	BASE CASE
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0667	100.2042	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0667	100.1906	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06574	116.8982	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06574	114.5841	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06574	109.0615	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06389	100.662	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05954	101.6933	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05795	100.1245	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	6	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05271	123.7654	DBL-WWRD-G12
FDNS	06G12_020	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05246	137.3965	DBL-WWRD-G12
FDNS	06ALL	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05245	136.215	DBL-WWRD-G12
FDNS	03ALL	2	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03679	106.3527	DBL-G1216-TH
FDNS	06G12_020	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03548	108.002	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ALL	2	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03547	107.1791	G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	00G12_020	3	23SP	G12_020	FROM->TO	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2	351	0.03624	108.0973	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	00G12_020	3	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.07371	101.0157	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1
FDNS	06ALL	3	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04023	113.4253	DBL-WWRD-G12
FDNS	03ALL	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07948	110.5689	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07948	110.2402	BENTON - WICHITA 345KV CKT 1
FDNS	01ALL	0	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07812	103.0593	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL	0	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06978	101.3768	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	3	0	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06602	106.547	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06558	125.2286	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0566	101.7331	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0566	100.3898	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	0	0	18WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0516	101.8469	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0516	101.8299	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G12_023	0	18WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05155	107.7147	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G12_023	0	18WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05155	103.5839	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G12_023	0	13WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05126	104.5705	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G12_023	0	13WP	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05126	100.8002	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	8	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05037	113.0135	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	8	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05037	108.8893	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05036	111.7461	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05036	107.7893	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08G12_023	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05036	113.8289	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08G12_023	0	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05036	109.8662	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	00G12_023	0	18WP	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04842	100.9758	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	8	0	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04736	106.4864	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	8	0	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04736	102.1783	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL	0	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04735	105.2815	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08ALL	0	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04735	101.1519	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08G12_023	0	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04735	107.231	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	08G12_023	0	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.04735	103.0927	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	06ALL	0	13G	G12_023	FROM->TO	TUCXFR345230	300	0.03758	119.1	BASE CASE
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32262	117.2354	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32262	114.9487	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.22179	107.3816	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.21369	107.4979	DBL-G1216-TH
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20317	99.9	DBL-WWRD-G12
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20166	106.3021	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20145	103.985	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	110.481	SPP-WERE-91
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	109.9651	SPP-WERE-90
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	110.4808	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	110.4769	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	109.9648	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	109.9626	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20027	107.9441	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19964	104.4955	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19895	102.4822	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19809	100.4102	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19748	101.0986	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19551	107.0098	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19511	106.1985	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19508	109.1911	WRTOD400
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19487	108.7004	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19466	104.788	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19466	103.9948	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19466	104.2392	SPP-WERE-32
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	103.1723	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	103.0914	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	101.3313	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	100.8867	SPP-WERE-28
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	100.6972	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19369	118.1195	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19369	117.6652	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19285	106.434	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19277	102.6781	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19234	103.1814	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1923	100.9096	BEAVER CO 345.00 - BUCKNER7 345.00 345KV CKT 1
FNSL	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19183	101.36	MINGO - SETAB 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19179	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19179	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19139	126.5732	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19139	107.9961	BASE CASE
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19139	100.5145	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19139	100.5097	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19073	99.9	SPP-MKEC-08
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19056	100.3236	FLATRDG3 - HARPER 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19056	99.9903	HARPER - MILAN TAP 138KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19056	99.9	SPP-MKEC-05
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19056	99.9	SPP-WEPL-03
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18911	102.7525	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1869	100.9371	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17703	101.9202	BENTON - WOLF CREEK 345KV CKT 1
FDNS	3	0	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06602	103.8134	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	MAIZE - MAIZEW 4 138.00 138KV CKT 1	478	0.06558	100.0717	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06558	122.4864	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07949	110.794	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07949	110.5518	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06558	124.6292	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0566	101.8649	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0566	100.5533	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32262	116.8982	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32262	114.5841	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.22179	107.034	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.21369	106.3527	DBL-G1216-TH
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20167	105.9761	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20146	103.6798	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	110.1671	SPP-WERE-91
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	109.6503	SPP-WERE-90
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	110.1668	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	110.1631	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	109.6496	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20069	109.6478	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20027	107.6639	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19964	104.173	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19895	101.756	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19809	100.1245	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19748	100.3605	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19551	105.3637	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19512	105.8937	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19508	108.9491	WRTOD400
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19487	108.4054	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19466	104.4452	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19466	103.7079	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19466	103.9362	SPP-WERE-32
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	102.8508	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	102.7686	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	101.0284	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	100.5907	SPP-WERE-28
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1939	100.3878	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1937	116.1451	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1937	115.7279	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19277	101.0853	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19234	102.0192	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19183	100.4402	MINGO - SETAB 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1918	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1918	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19139	125.9238	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19139	107.6631	BASE CASE
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19139	100.2042	GEN542956 2-LACYGNE UNIT #2

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19139	100.1906	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18911	102.0474	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1869	100.662	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17703	101.6933	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06558	121.8889	BENTON - WICHITA 345KV CKT 1
FNSL-Blown up	03ALL	0	13G	G12_024		Non-converged Contingency	0	0.44091	-	DBL-THIS-CLR
FNSL-Blown up	03ALL	0	13G	G12_024		Non-converged Contingency	0	0.24014	-	DBL-WICH-THI
FNSL-Blown up	03ALL	0	13G	G12_024		Non-converged Contingency	0	0.16982	-	DBL-SPRVL-MU
FNSL-Blown up	03ALL	0	13G	G12_024		Non-converged Contingency	0	0.16982	-	DBL-MUL-RENO
FNSL-Blown up	01ALL	0	13G	G12_024		Non-converged Contingency	0	0.13642	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	0	13G	G12_024		Non-converged Contingency	0	0.12877	-	DBL-TGA-MATT
FNSL-Blown up	03ALL	0	13G	G12_024		Non-converged Contingency	0	0.04909	-	DBL-BVR-WWRD
FNSL-Blown up	03ALL	2	13G	G12_024		Non-converged Contingency	0	0.44091	-	DBL-THIS-CLR
FNSL-Blown up	03ALL	2	13G	G12_024		Non-converged Contingency	0	0.24014	-	DBL-WICH-THI
FNSL-Blown up	03ALL	2	13G	G12_024		Non-converged Contingency	0	0.16982	-	DBL-SPRVL-MU
FNSL-Blown up	03ALL	2	13G	G12_024		Non-converged Contingency	0	0.16982	-	DBL-MUL-RENO
FNSL-Blown up	03ALL	2	13G	G12_024		Non-converged Contingency	0	0.12877	-	DBL-TGA-MATT
FDNS	01ALL	0	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0655	103.0593	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL	0	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06465	101.3768	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	03G12_024	0	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05596	100.1206	BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	0	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05596	99.9	BENTON - WICHITA 345KV CKT 1
FDNS	3	0	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05568	106.547	BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	0	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05561	109.7227	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05537	110.5689	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05537	110.2402	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05524	125.2286	BENTON - WICHITA 345KV CKT 1
FDNS	00G12_024	0	18SP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04115	136.792	DBL-WICH-THI
FDNS	0	0	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04059	124.4558	DBL-WICH-THI
FDNS	00_HOSKINSLDOFF	0	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04059	124.4301	DBL-WICH-THI
FDNS	00G12_024	0	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.04049	166.6688	DBL-WICH-THI
FDNS	03G12_024	0	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.04048	103.9127	DBL-SPRVL-MU
FDNS	03G12_024	0	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.04048	103.7091	DBL-MUL-RENO
FDNS	0	0	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03999	127.7779	DBL-WICH-THI
FDNS	00_HOSKINSLDOFF	0	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03999	127.7497	DBL-WICH-THI
FDNS	00G12_024	0	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03989	168.8821	DBL-WICH-THI
FDNS	00G12_024	0	23SP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03893	124.8092	DBL-WICH-THI
FDNS	03ALL	0	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03732	117.8918	AXTELL - POST ROCK 345KV CKT 1
FDNS	00G12_024	0	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03378	109.4503	DBL-SPRVL-CL
FDNS	00G12_024	0	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03368	110.7434	DBL-SPRVL-CL
FDNS	00G12_024	0	13SP	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03238	119.2914	DBL-WICH-THI
FDNS	00G12_024	0	13SP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03238	101.5944	DBL-WICH-THI
FDNS	03ALL	0	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.03225	101.7331	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.03225	100.3898	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	7	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03204	112.2756	DBL-WICH-THI
FDNS	7	0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03204	100.8991	DBL-WICH-THI
FDNS	9	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03202	100.3119	DBL-WICH-THI
FDNS	09_HOSKINSLDOFF	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03202	100.2963	DBL-WICH-THI
FDNS	07ALL	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.032	117.3373	DBL-WICH-THI
FDNS	07ALL	0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.032	105.9781	DBL-WICH-THI
FDNS	1	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03199	148.481	DBL-WICH-THI
FDNS	1	0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03199	137.1601	DBL-WICH-THI
FDNS	09ALL	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03199	101.4074	DBL-WICH-THI
FDNS	09ALL_HOSKINSLDOFF	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03199	101.3904	DBL-WICH-THI
FDNS	09ALL_BPSON	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03196	100.8507	DBL-WICH-THI
FDNS	09ALL_BPSON_HOSKINS	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03196	100.8435	DBL-WICH-THI
FDNS	01ALL	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.0319	170.3118	DBL-WICH-THI
FDNS	01ALL	0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.0319	149.4037	DBL-WICH-THI
FDNS	6	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03188	117.3139	DBL-WICH-THI
FDNS	6	0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03188	105.9695	DBL-WICH-THI
FDNS	06ALL	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03178	124.2559	DBL-WICH-THI
FDNS	06ALL	0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03178	112.9207	DBL-WICH-THI
FDNS	3	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.0317	203.702	DBL-WICH-THI
FDNS	3	0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.0317	182.3826	DBL-WICH-THI
FDNS	03G12_024	0	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03166	211.9582	DBL-WICH-THI
FDNS	03G12_024	0	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03166	190.5622	DBL-WICH-THI
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19262	107.4979	DBL-G1216-TH
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18729	117.2354	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18729	114.9487	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18729	109.5499	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03G12_024	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1781	102.0397	DBL-TGA-MATT
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17658	118.1195	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17658	117.6652	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17308	99.9	DBL-WWRD-G12
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17135	107.3816	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16662	100.4102	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1659	107.0098	AXTELL - POST ROCK 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1651	107.9441	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16462	101.0986	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16369	102.4822	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	110.481	SPP-WERE-91
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	110.4808	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	110.4769	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	109.9651	SPP-WERE-90
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	109.9648	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	109.9626	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16337	103.985	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16263	102.6781	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16103	106.3021	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16003	109.1911	WRTOD400
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16001	106.1985	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15987	104.4955	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15976	108.7004	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15962	100.9096	BEAVER CO 345.00 - BUCKNER7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15895	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15895	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15876	100.3236	FLATRDG3 - HARPER 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15876	99.9903	HARPER - MILAN TAP 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15876	99.9	SPP-MKEC-05
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15876	99.9	SPP-WEPL-03
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1587	99.9	SPP-MKEC-08
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15858	103.1814	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15728	104.788	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15728	103.9948	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15728	104.2392	SPP-WERE-32
FNSL	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15723	101.36	MINGO - SETAB 345KV CKT 1
FDNS	3	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15663	106.434	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15659	103.1723	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15659	103.0914	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15659	101.3313	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15659	100.8867	SPP-WERE-28
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15659	100.6972	CENTENNIAL - WACO 138KV CKT 1
FDNS	03G12_024	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15641	110.0797	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15544	102.7525	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15517	126.5732	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15517	107.9961	BASE CASE
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15517	100.5145	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15517	100.5097	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15261	100.9371	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.14519	101.9202	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03G12_024	0	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06677	111.924	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	03G12_024	0	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06677	101.8785	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	3	0	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06641	109.0691	G12-11T 345.00 - POST ROCK 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06636	123.7626	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03G12_024	0	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06089	100.7421	DBL-SPRVL-MU
FDNS	03G12_024	0	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06089	100.3083	DBL-MUL-RENO
FDNS	3	0	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05568	103.8134	BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	0	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05561	106.9885	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	MAIZE - MAIZEW 4 138.00 138KV CKT 1	478	0.05524	100.0717	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	0	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05524	122.4864	BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	0	13G	G12_024	TO->FROM	CIRCLE - MULLERGREN 230KV CKT 1	319	0.0453	106.2398	DBL-SPRVL-MU
FDNS	03G12_024	0	13G	G12_024	TO->FROM	CIRCLE - MULLERGREN 230KV CKT 1	319	0.0453	105.409	DBL-MUL-RENO
FDNS	00G12_024	0	18SP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04115	108.1527	DBL-WICH-THI
FDNS	0	0	13WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04059	100.7963	DBL-WICH-THI
FDNS	00_HOSKINSLDOFF	0	13WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04059	100.774	DBL-WICH-THI
FDNS	00G12_024	0	13WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.04049	137.5643	DBL-WICH-THI
FDNS	0	0	18WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03999	103.3908	DBL-WICH-THI
FDNS	00_HOSKINSLDOFF	0	18WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03999	103.3664	DBL-WICH-THI
FDNS	00G12_024	0	18WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03989	139.216	DBL-WICH-THI
FDNS	1	0	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03199	113.4441	DBL-WICH-THI
FDNS	01ALL	0	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.0319	123.9204	DBL-WICH-THI
FDNS	3	0	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.0317	152.9826	DBL-WICH-THI
FDNS	03G12_024	0	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03166	160.1986	DBL-WICH-THI
FDNS	03ALL	2	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05537	110.794	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05537	110.5518	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05524	124.6292	BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03732	116.0479	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.03225	101.8649	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.03225	100.5533	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	9	2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03202	100.302	DBL-WICH-THI
FDNS	9	2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03199	100.302	DBL-WICH-THI
FDNS	6	2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03188	117.1952	DBL-WICH-THI
FDNS	6	2	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03188	105.8498	DBL-WICH-THI

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	06ALL	2	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03178	124.1729	DBL-WICH-THI
FDNS	06ALL	2	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03178	112.8374	DBL-WICH-THI
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19262	106.3527	DBL-G1216-TH
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18729	116.8982	HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18729	114.5841	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18729	109.0615	VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17658	116.1451	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17658	115.7279	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17135	107.034	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16662	100.1245	G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16591	105.3637	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1651	107.6639	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16462	100.3605	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16369	101.756	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	110.1671	SPP-WERE-91
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	110.1668	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	110.1631	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	109.6503	SPP-WERE-90
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	109.6496	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16363	109.6478	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16337	103.6798	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16263	101.0853	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16103	105.9761	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16003	108.9491	WRTOD400
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16001	105.8937	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15987	104.173	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15976	108.4054	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15895	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15895	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15858	102.0192	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15728	104.4452	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15728	103.7079	HOOVER NORTH - LAKERIDGE 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15728	103.9362	SPP-WERE-32
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15723	100.4402	MINGO - SETAB 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1566	102.8508	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1566	102.7686	45TH ST4 138.00 - COWSKIN 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1566	101.0284	CENTENNIAL - COWSKIN 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1566	100.5907	SPP-WERE-28
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1566	100.3878	CENTENNIAL - WACO 138KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15544	102.0474	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15517	125.9238	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15517	107.6631	BASE CASE
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15517	100.2042	GEN542956 2-LACYGNE UNIT #2
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15517	100.1906	GEN542955 1-LACYGNE UNIT #1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15261	100.662	ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.14519	101.6933	BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06636	121.6775	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05524	121.8889	BENTON - WICHITA 345KV CKT 1
FDNS	06ALL	3	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03078	115.3848	DBL-WICH-THI
FDNS	06ALL	3	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03078	104.0282	DBL-WICH-THI
FNSL-Blown up	00_HOSKINSLDOFF	0	13WP	G12_026		Non-converged Contingency	0	0.06929	-	TRF-STEGALL
FNSL-Blown up	00G12_026	0	13WP	G12_026		Non-converged Contingency	0	0.0462	-	NEB01WAPAB3
FNSL-Blown up	00_HOSKINSLDOFF	0	13WP	G12_026		Non-converged Contingency	0	0.04619	-	NEB01WAPAB3
FNSL-Blown up	07ALL	0	13G	G12_027		Non-converged Contingency	0	0.03475	-	SPP-SWPS-02
FDNS	08ALL	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48383	109.7107	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	08ALL	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48383	109.3638	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	08ALL	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48383	107.0516	DOMES - PAWHUSKA TAP 138KV CKT 1
FDNS	08ALL	0	13G	G12_027	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.48383	105.9791	DOMES - MOUND ROAD 138KV CKT 1
FDNS	00G12_027	0	18SP	G12_027	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	0.11962	106.5545	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
FDNS	00G12_027	0	23SP	G12_027	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	0.11961	111.4121	FAIRFAX - FAXTAP4 138.00 138KV CKT 1
FDNS	08ALL	0	13G	G12_027	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	0.11312	100.5418	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
FDNS	06ALL	0	13G	G12_027	FROM->TO	TUCXFR345230	300	0.04246	119.1	BASE CASE
FDNS	01ALL	0	13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04002	103.0593	GRACEMONT - MINCO 345KV CKT 1
FNSL-Blown up	07ALL	0	13G	G12_028		Non-converged Contingency	0	0.16875	-	SPP-SWPS-02
FNSL-Blown up	03ALL	0	13G	G12_028		Non-converged Contingency	0	0.07032	-	DBL-WICH-THI
FNSL-Blown up	03ALL	2	13G	G12_028		Non-converged Contingency	0	0.07032	-	DBL-WICH-THI
FDNS	01ALL	0	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0719	101.3768	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.05507	102.7952	SPP-SWPS-03
FDNS	07ALL	0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.05493	103.0335	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	01ALL	0	13G	G12_028	FROM->TO	CANTON - OKEENE 69KV CKT 1	48	0.04577	104.1167	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	FROM->TO	CANTON - OKEENE 69KV CKT 1	48	0.04577	102.607	CEDARDALE - OKEENE 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	111.4381	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	110.9371	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	110.1736	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	109.3	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	107.6984	BINGER NIJECT - SICKLES 138KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	07ALL	0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	106.0985	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.04405	105.5388	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04279	102.8429	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	06ALL	0	13G	G12_028	FROM->TO	TUCXFR345230	300	0.0347	119.1	BASE CASE
FDNS	07ALL	0	13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.15831	100.7004	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.05507	101.8916	SPP-SWPS-03
FDNS	07ALL	0	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.05493	102.1056	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04893	114.6743	DEWEY - SOUTHARD 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04893	112.4176	ROMAN NOSE - SOUTHARD 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04893	110.9855	EL RENO - ROMAN NOSE 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04811	111.0974	DBL-G1216-TH
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04768	104.785	DBL-WICH-THI
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04745	103.0555	DBL-WWRD-G12
FDNS	1	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04741	119.2774	DBL-TGA-MATT
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04729	107.9458	BASE CASE
FDNS	03ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04722	106.3383	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04722	105.6991	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04676	101.4041	ALVA - CHEROKEE SW 69KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04577	135.1582	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04577	133.2835	CEDARDALE - OKEENE 138KV CKT 1
FDNS	1	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04574	115.4475	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	1	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04574	113.7494	CEDARDALE - OKEENE 138KV CKT 1
FDNS	3	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04561	103.4075	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	3	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04561	101.7327	CEDARDALE - OKEENE 138KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04552	118.7639	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04552	117.0446	CEDARDALE - OKEENE 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	109.7797	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	109.3338	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	108.6568	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	107.8841	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	106.4605	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	105.0269	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	104.9584	CLINTON - G07-32T 138.00 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.04405	104.5363	ONEY - WASHITA 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	104.5152	CLINTON - WEATHERFORD 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	103.8435	HYDRO - WEATHERFORD 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	103.0777	HYDRO - SICKLES 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	101.6636	BINGER NIJECT - SICKLES 138KV CKT 1
FDNS	07ALL	0	13G	G12_028	TO->FROM	HINTON - WEATHERFORD JCT. 138KV CKT 1	214	0.04405	100.2363	BINGER NIJECT - ONEY 138KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04278	107.3816	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	01ALL	0	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.03427	106.2015	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03421	102.4822	RENO COUNTY - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03413	101.0986	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03406	103.985	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03289	107.0098	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03268	107.9441	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03213	106.3021	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03178	103.1814	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03168	104.4955	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03156	102.6781	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	3	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0313	106.434	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FNSL	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0312	101.36	MINGO - SETAB 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03098	106.1985	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03093	118.1195	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03093	117.6652	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03092	99.9	SPP-MKEC-08
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03087	109.1911	WRTOD400
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03079	108.7004	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03074	100.3236	FLATRDG3 - HARPER 138KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03074	99.9903	HARPER - MILAN TAP 138KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03074	99.9	SPP-MKEC-05
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03074	99.9	SPP-WEPL-03
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	110.481	SPP-WERE-91
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	110.4808	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	110.4769	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	109.9651	SPP-WERE-90
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	109.9648	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	109.9626	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03004	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	0	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03004	101.8135	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04722	103.8918	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04722	103.247	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04552	118.4939	CEDARDALE - MOORELAND 138KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04552	116.7763	CEDARDALE - OKEENE 138KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04278	107.034	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03421	101.756	RENO COUNTY - SUMMIT 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03413	100.3605	JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03406	103.6798	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03289	105.3637	AXTELL - POST ROCK 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03268	107.6639	SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03213	105.9761	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03178	102.0192	MINGO - RED WILLOW 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03168	104.173	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03156	101.0853	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03121	100.4402	MINGO - SETAB 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03098	105.8937	HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03093	116.1451	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03093	115.7279	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03087	108.9491	WRTOD400
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03079	108.4054	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	110.1671	SPP-WERE-91
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	110.1668	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	110.1631	MAIZE - MAIZEW 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	109.6503	SPP-WERE-90
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	109.6496	MAIZE - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03038	109.6478	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03004	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	2	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03004	101.4935	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FNSL-Blown up	07ALL	0	13G	G12_031		Non-converged Contingency	0	0.04484	-	SPP-SWPS-02
FDNS	01ALL	0	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20933	103.0593	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL	0	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18662	101.3768	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	06ALL	0	13G	G12_031	FROM->TO	TUCXFR345230	300	0.04684	119.1	BASE CASE
FDNS	01ALL	0	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06813	103.0593	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL	0	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05752	101.3768	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	06ALL	0	13G	G12_032	FROM->TO	TUCXFR345230	300	0.0399	119.1	BASE CASE
FNSL-Blown up	07ALL	0	13G	G12_033		Non-converged Contingency	0	0.03727	-	SPP-SWPS-02
FDNS	01ALL	0	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08352	103.0593	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL	0	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07394	101.3768	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	06ALL	0	13G	G12_033	FROM->TO	TUCXFR345230	300	0.04143	119.1	BASE CASE
FDNS	08ALL	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.0374	109.7107	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	08ALL	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.0374	109.3638	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	08ALL	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.0374	107.0516	DOMES - PAWHUSKA TAP 138KV CKT 1
FDNS	08ALL	0	13G	G12_033	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.0374	105.9791	DOMES - MOUND ROAD 138KV CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13768	101.6639	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13767	101.6608	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13361	102.5472	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1336	102.5429	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11789	106.7135	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11788	106.7111	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11462	113.4424	BASE CASE
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11461	113.4422	BASE CASE
FDNS	0	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	118.2437	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	103.0881	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	118.2411	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	103.0856	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09194	120.8851	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09194	120.8833	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	18SP	G12_034	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05781	100.5383	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_034	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05781	100.539	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	23SP	G12_034	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05103	101.897	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	23SP	G12_034	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05103	101.897	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03491	110.6069	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03491	104.3687	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0349	110.6064	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0349	104.3683	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	125.6029	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	116.9006	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	125.6024	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	116.9002	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	109.3806	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	104.8933	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	109.3802	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	104.893	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	121.5741	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	115.0031	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	121.5737	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	115.0028	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	23SP	G12_034	TO->FROM	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1	309	0.10614	104.9962	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2
FDNS	00_HOSKINSLDOFF	0	23SP	G12_034	TO->FROM	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1	309	0.10614	104.9961	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2
FDNS	0	0	23SP	G12_034	TO->FROM	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2	309	0.10443	103.8162	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	23SP	G12_034	TO->FROM	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2	309	0.10443	103.8161	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1
FDNS	0	0	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05549	116.4011	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05549	116.405	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	0	13SP	G12_034	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03969	100.6593	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_034	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03969	100.6583	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13768	101.6639	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13767	101.6608	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13361	102.5472	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1336	102.5429	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11789	106.7135	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11788	106.7111	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11462	113.4424	BASE CASE
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11461	113.4422	BASE CASE
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	118.2437	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	103.0881	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	118.2411	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	103.0856	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09194	120.8851	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09194	120.8833	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	18SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05781	100.5383	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05781	100.539	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	23SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05103	101.897	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	23SP	G12_035	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05103	101.897	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03491	110.6069	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03491	104.3687	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0349	110.6064	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0349	104.3683	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	125.6029	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	116.9006	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	125.6024	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	116.9002	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	109.3806	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	104.8933	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	109.3802	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	104.893	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	121.5741	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	115.0031	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	121.5737	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	115.0028	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	23SP	G12_035	TO->FROM	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1	309	0.10614	104.9962	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2
FDNS	00_HOSKINSLDOFF	0	23SP	G12_035	TO->FROM	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1	309	0.10614	104.9961	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2
FDNS	0	0	23SP	G12_035	TO->FROM	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2	309	0.10443	103.8162	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	23SP	G12_035	TO->FROM	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2	309	0.10443	103.8161	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1
FDNS	0	0	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05549	116.4011	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05549	116.405	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	0	13SP	G12_035	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03969	100.6593	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_035	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03969	100.6583	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13768	101.6639	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13767	101.6608	JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13361	102.5472	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1336	102.5429	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11789	106.7135	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11788	106.7111	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11462	113.4424	BASE CASE
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11461	113.4422	BASE CASE
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	118.2437	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	103.0881	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	118.2411	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11421	103.0856	ALLEN SUB - SOUTH PLAINS REC-QUAKER 115KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09194	120.8851	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09194	120.8833	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	0	18SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05781	100.5383	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05781	100.539	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	23SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05103	101.897	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	23SP	G12_036	FROM->TO	YOAKUM COUNTY INTERCHANGE (PENN C010585) 230/115/13.2KV TRANSFORMER CKT 2	150	0.05103	101.897	YOAKUM COUNTY INTERCHANGE (GE M100899) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03491	110.6069	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03491	104.3687	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0349	110.6064	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0349	104.3683	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	125.6029	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	116.9006	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	125.6024	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03378	116.9002	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	109.3806	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	104.8933	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	109.3802	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03298	104.893	LUBBOCK EAST INTERCHANGE (ENRCO 136162) 230/115/13.2KV TRANSFORMER CKT 1
FDNS	0	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	121.5741	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	0	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	115.0031	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	121.5737	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03202	115.0028	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1	309	0.10614	104.9962	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2
FDNS	00_HOSKINSLDOFF	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1	309	0.10614	104.9961	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2
FDNS	0	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2	309	0.10443	103.8162	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	23SP	G12_036	TO->FROM	DENVER CITY INTERCHANGE S. - MUSTANG STATION N. 115KV CKT 2	309	0.10443	103.8161	DENVER CITY INTERCHANGE N. - MUSTANG STATION N. 115KV CKT 1
FDNS	0	0	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05549	116.4011	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05549	116.405	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	0	13SP	G12_036	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03969	100.6593	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	00_HOSKINSLDOFF	0	13SP	G12_036	TO->FROM	ALLEN SUB - LUBBOCK SOUTH INTERCHANGE 115KV CKT 1	160	0.03969	100.6583	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	105.035	SPP-WERE-08B
FDNS	08ALL	0	13G	G12_040	FROM->TO	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	104.9676	CRESWELL - OXFORD 138KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	104.1105	OXFORD - SUMNER 4 138KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07895	109.7107	SHIDLER - WEST PAWHUSKA 138KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07895	109.3638	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07895	107.0516	DOMES - PAWHUSKA TAP 138KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1	174	0.07895	105.9791	DOMES - MOUND ROAD 138KV CKT 1
FDNS	01ALL	0	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06393	103.0593	GRACEMONT - MINCO 345KV CKT 1
FDNS	01ALL	0	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05375	101.3768	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	08ALL	0	13G	G12_040	FROM->TO	OAK - RAINBOW 69KV CKT 1	43	0.04662	104.482	OAK - STROTHER FIELD (CITY OF WINFIELD) 69KV CKT 1
FDNS	06ALL	0	13G	G12_040	FROM->TO	TUCXFR345230	300	0.04013	119.1	BASE CASE
FDNS	08ALL	0	13G	G12_040	TO->FROM	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	102.0345	SPP-WERE-08B
FDNS	08ALL	0	13G	G12_040	TO->FROM	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	101.9661	CRESWELL - OXFORD 138KV CKT 1
FDNS	08ALL	0	13G	G12_040	TO->FROM	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1	37	0.09348	101.1057	OXFORD - SUMNER 4 138KV CKT 1
FDNS	00NR	0	18WP	G12_040	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.05341	103.6317	DBL-WWRD-G12
FDNS	00NR	0	18SP	G12_040	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.05252	114.6325	DBL-WWRD-G12
FDNS	00NR	0	13WP	G12_040	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	185	0.05249	107.0928	DBL-WWRD-G12
FDNS	00NR	0	13SP	G12_040	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04957	124.7241	DBL-WWRD-G12
FDNS	00NR	0	13SP	G12_040	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04672	100.8657	DBL-TGA-MATT
FDNS	08ALL	0	13G	G12_040	TO->FROM	CITY OF WINFIELD - RAINBOW 69KV CKT 1	43	0.04662	101.4524	OAK - STROTHER FIELD (CITY OF WINFIELD) 69KV CKT 1

I: Power Flow Analysis (Constraints from Category C Contingencies)

See next page.

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FNSL-Blown up	06ALL	1	13G	ASGI_12_002		Non-converged Contingency	0	0.21162	-	CHAVES COUNTY INTERCHANGE - SAN JUAN MESA TAP 230KV CKT 1 &CHAVES COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1
FNSL-Blown up	03ALL	1	13G	ASGI_12_002		Non-converged Contingency	0	0.11687	-	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FNSL-Blown up	01ALL	1	13G	ASGI_12_002		Non-converged Contingency	0	0.1076	-	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FNSL-Blown up	03ALL	1	13G	ASGI_12_002		Non-converged Contingency	0	0.07466	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	ASGI_12_002		Non-converged Contingency	0	0.07466	-	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	3	1	13G	ASGI_12_002		Non-converged Contingency	0	0.03799	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	ASGI_12_002		Non-converged Contingency	0	0.03733	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	ASGI_12_002		Non-converged Contingency	0	0.03733	-	G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	ASGI_12_002		Non-converged Contingency	0	0.03733	-	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	BUFFALO 230.00 - BUSHLAND INTERCHANGE 230KV CKT 1	350.5669	0.31806	105.2086	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1	502	0.26683	108.5177	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1	502	0.24715	99.9	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1	502	0.24715	99.9	G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1	502	0.24439	101.9831	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	SUNDOWN INTERCHANGE - WOLFFORTH INTERCHANGE 230KV CKT 1	351	0.20831	111.8509	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	DEAF SMITH REC-#20 - DEAF SMITH REC-#24 115KV CKT 1	99	0.20105	100.8221	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &PLANT X STATION - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.20105	112.4354	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &PLANT X STATION - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.1946	103.8243	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.17991	101.3235	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.14262	119.9506	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	DEAF SMITH REC-#20 - DEAF SMITH REC-#24 115KV CKT 1	99	0.14261	101.1228	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.14261	121.7871	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	287	0.1408	107.9827	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	287	0.1408	105.5853	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.11787	101.846	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.11785	102.9433	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.11785	100.6541	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	6	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.11251	100	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	6	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.11251	100	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.1125	100.2014	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.1125	100.157	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.11202	114.7163	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.11202	114.669	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11065	129.5814	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11061	131.4585	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.10684	110.8372	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10589	123.7389	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10411	104.1758	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	0	1	18SP	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.10216	104.2937	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	18SP	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.10216	105.534	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.09968	112.3169	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	23SP	ASGI_12_002	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.09968	113.3634	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.09726	105.594	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.09726	105.5485	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09437	101.3166	SUNSD314
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09422	102.2733	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09422	102.0182	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09421	102.3204	SUNSD384
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09409	101.931	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09339	101.4406	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0932	102.1658	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09107	100.9758	NOWST382
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.09086	101.3093	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.09086	101.2647	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.09035	100.1494	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.09035	100.1051	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	6	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08935	118.7676	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	6	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08935	118.5506	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08935	118.9416	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08935	118.7148	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.089	135.3387	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.089	134.3784	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.089	100.6324	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.089	100.6324	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.089	100.5878	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.089	100.5878	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08857	100.3825	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08857	100.3381	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08841	100.1202	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08841	100.0758	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0871	103.2122	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08692	101.4424	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08629	108.0609	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08629	108.0149	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08605	107.3373	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08603	108.7446	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08593	103.3899	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08591	104.7978	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08421	105.8563	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08419	107.2514	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08382	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08379	120.4947	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08379	110.6009	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08379	110.1715	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08377	121.8881	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08377	111.9761	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08377	111.32	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08339	105.7179	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08336	107.1054	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08307	105.8405	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08304	107.235	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0813	104.3617	MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	6	1	13G	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08128	110.1636	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08128	110.152	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08116	100.808	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.08116	100.7636	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.08096	131.0935	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07274	99.9	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1 &TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07274	99.9	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1 &TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07246	105.4796	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1 &TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.07246	105.4342	LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1 &TOLK STATION WEST - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.071	100.8442	MSTNG186
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06974	103.5679	TOLK STATION TAP - TOLK STATION WEST 230KV CKT 1 &LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06974	103.5228	TOLK STATION TAP - TOLK STATION WEST 230KV CKT 1 &LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06924	103.1034	DBLCCT10
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06917	100.8511	ARCAD311
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06857	105.9041	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06855	107.0739	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06566	101.4924	PLVAL138KV
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06494	132.437	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06492	133.4789	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06451	103.0148	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06449	104.0806	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06444	105.809	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06442	106.9261	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.06437	111.7559	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06431	115.4065	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06431	108.1621	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06431	107.7147	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06429	116.489	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06429	109.0221	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06429	108.5749	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06396	101.7983	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06393	102.9025	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06365	104.4469	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06363	105.5492	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.06263	99.9	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0616	105.549	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06063	103.1766	ROOSEVELT COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 2 &LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.06063	103.1321	ROOSEVELT COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 2 &LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	KRESS INTERCHANGE - TULIA TAP 115KV CKT 1	96	0.06002	110.3784	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.05656	99.9	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.05655	100.5163	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.05642	104.2589	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05557	102.6755	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05557	102.6305	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05393	100.4675	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05393	100.423	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05381	100.4623	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05381	100.4623	G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05381	100.4179	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05381	100.4179	G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05367	100.4566	G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.05367	100.4117	G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05325	100.4234	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05315	101.6441	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05314	102.5485	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0529	104.2445	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05288	105.1403	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05262	100.6637	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05214	102.5678	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05212	103.4569	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05193	116.3555	BASE CASE
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05193	101.8567	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05193	101.513	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05191	117.4761	BASE CASE
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05191	102.7416	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05191	102.3911	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05141	100.1373	G12-037 345.00 - TUCO INTERCHANGE 345KV CKT 1 &TUCO INTERCHANGE - TUCO2 345.00 345KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05139	101.0179	G12-037 345.00 - TUCO INTERCHANGE 345KV CKT 1 &TUCO INTERCHANGE - TUCO2 345.00 345KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.05139	100	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.04901	101.7017	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	239	0.04901	101.4612	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04817	100.3143	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04664	126.3964	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04663	127.1492	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04257	102.3744	GRACEMONT - MINCO 345KV CKT 1 &GRACEMONT - SWEETWATER7 345.00 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04072	136.1557	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	1	1	13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.04062	115.7099	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04022	128.4237	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04022	124.4799	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04022	124.2381	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04021	129.0574	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04021	125.0242	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.04021	124.8687	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03991	120.9464	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0399	121.5685	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03985	122.3698	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03984	122.9691	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	1	1	13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03945	132.7525	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03929	161.5485	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.0388	109.8812	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.03847	100.2064	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	FROM->TO	BENTON - ROSE HILL 345KV CKT 1	956	0.0368	105.3788	ROSE HILL - WOLF CREEK 345KV CKT 1 &ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.03307	105.3603	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	3	1	13G	ASGI_12_002	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0329	104.0265	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	3	1	13G	ASGI_12_002	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0329	103.6142	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03266	107.9746	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	3	1	13G	ASGI_12_002	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03225	103.1475	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0321	119.8587	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0321	119.6552	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	1	1	13G	ASGI_12_002	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03186	115.5669	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03105	129.1009	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	6	1	13G	ASGI_12_002	TO->FROM	PLANT X STATION - TOLK STATION WEST 230KV CKT 1	502	0.49769	106.3354	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	TO->FROM	PLANT X STATION - TOLK STATION WEST 230KV CKT 1	502	0.49767	106.7295	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	PLANT X STATION - TOLK STATION WEST 230KV CKT 1	502	0.49589	130.1404	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	PLANT X STATION - TOLK STATION EAST 230KV CKT 2	502	0.35461	101.357	PLANT X STATION - TOLK STATION WEST 230KV CKT 1 &LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	PLANT X STATION - TOLK STATION WEST 230KV CKT 1	502	0.26822	104.418	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	PLANT X STATION - TOLK STATION EAST 230KV CKT 2	502	0.26611	112.0968	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.19754	118.1476	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	SP-WOLF_TP 3115.00 - YUMA INTERCHANGE 115KV CKT 1	175	0.08096	105.6308	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	LP-DOUD_TP 3115.00 - SP-WOLF_TP 3115.00 115KV CKT 1	175	0.08096	101.3399	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	CARLISLE INTERCHANGE - LP-DOUD_TP 3115.00 115KV CKT 1	154	0.08096	103.0023	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07598	104.6281	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	110.9132	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	106.4971	CRSRDSW7 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	106.4954	G07-21 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	106.4788	G11_024_1 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	106.4778	G08-19 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	106.2272	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	106.2164	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	106.1494	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	105.1371	G11_020_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	105.1371	G11_019_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07576	103.4113	G07-62 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07562	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07562	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07555	104.4548	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0754	102.4198	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0742	115.1894	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07335	105.5943	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.07235	100.6478	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06841	105.2165	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06798	106.8369	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06722	104.1698	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06716	100.5967	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0665	103.8295	KCPL-CROW#01
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06643	103.7136	SWISSVALE - WEST GARDNER 345KV CKT 1 &STILWELL - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06642	103.6006	KCPLCROW02-G
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06629	99.9	WDRNG315-13
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06613	102.5019	SWISSVALE - WEST GARDNER 345KV CKT 1 &CRAIG - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06609	101.689	BKR-AXT-3308
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06607	101.5604	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06602	101.6526	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - SWEETWATER 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06405	110.2384	SOONER - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06397	105.0632	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06374	101.8717	HOYT - STRANGER CREEK 345KV CKT 1 &IATAN - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0636	102.2378	HOYT - STRANGER CREEK 345KV CKT 1 &87th STREET - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06355	102.2509	KCPLB-5
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06342	105.7551	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FDNS	3	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06321	103.5036	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06286	110.9672	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06213	116.9972	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06182	122.2898	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06182	103.3955	BASE CASE
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	HAPPY INTERCHANGE - TULIA TAP 115KV CKT 1	96	0.06002	106.5995	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05944	105.1203	WDRNG383
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05931	109.3098	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05931	109.2949	CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05931	109.0221	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05931	105.1125	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05931	105.0707	VIOLA 7 345.00 - WICHITA 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05931	104.888	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	0	1	18SP	ASGI_12_002	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.0514	101.2553	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1
FDNS	00ASGI_12_002	1	18SP	ASGI_12_002	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05139	101.9843	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04296	111.4573	BENTON - WOLF CREEK 345KV CKT 1 &ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	0	1	13SP	ASGI_12_002	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04111	127.0507	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00ASGI_12_002	1	13SP	ASGI_12_002	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04109	127.8308	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	6	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04076	114.3186	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04076	114.3965	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04072	191.1355	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	1	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04062	167.6808	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0406	123.8553	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0405	130.4828	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	6	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04028	103.867	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	06ASGI_12_002	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04028	103.9616	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ALL	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04007	113.4255	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03999	122.4601	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.03959	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.03959	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	1	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03945	198.7475	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03929	237.1105	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	ASGI_12_002	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.0388	104.7624	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	ASGI_12_002	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.03757	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	1	1	13G	ASGI_12_002	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.03757	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03582	104.1253	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	07ALL	1	13G	ASGI_12_002	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03533	107.0162	CMARN384
FDNS	07ALL	1	13G	ASGI_12_002	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03533	107.0162	DBLCCT8
FDNS	07ALL	1	13G	ASGI_12_002	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03501	106.161	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 &GRACEMONT - MINCO 345KV CKT 1
FDNS	07ALL	1	13G	ASGI_12_002	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03498	105.8892	CMARN383
FDNS	3	1	13G	ASGI_12_002	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.03366	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	3	1	13G	ASGI_12_002	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.03366	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.03266	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	03ALL	1	13G	ASGI_12_002	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.03266	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	07ALL	1	13G	ASGI_12_002	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03182	102.755	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	07ALL	1	13G	ASGI_12_002	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03127	106.2471	CIMARRONR
FDNS	0	1	13WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03374	113.3537	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00G12_016	1	13WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03374	113.3537	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	0	1	18WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03331	117.7167	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00G12_016	1	18WP	G12_016	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03331	117.7167	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FNSL-Blown up	00G12_017	1	23SP	G12_017		Non-converged Contingency	0	1.1583	-	BKR-CPR-3310
FNSL-Blown up	0	1	18WP	G12_017		Non-converged Contingency	0	1.15829	-	BKR-CPR-3310
FNSL-Blown up	00G12_017	1	18WP	G12_017		Non-converged Contingency	0	1.15829	-	BKR-CPR-3310
FNSL-Blown up	0	1	23SP	G12_017		Non-converged Contingency	0	1.15824	-	BKR-CPR-3310
FNSL-Blown up	0	1	18SP	G12_017		Non-converged Contingency	0	1.15692	-	BKR-CPR-3310
FNSL-Blown up	0	1	13SP	G12_017		Non-converged Contingency	0	1.15225	-	BKR-CPR-3310
FNSL-Blown up	00G12_017	1	13SP	G12_017		Non-converged Contingency	0	1.15225	-	BKR-CPR-3310
FNSL-Blown up	09ALL	1	13G	G12_017		Non-converged Contingency	0	1.14888	-	BKR-CPR-3310
FNSL-Blown up	09G12_017	1	13G	G12_017		Non-converged Contingency	0	1.14868	-	BKR-CPR-3310
FNSL-Blown up	9	1	13G	G12_017		Non-converged Contingency	0	1.14866	-	BKR-CPR-3310
FNSL-Blown up	0	1	13SP	G12_017		Non-converged Contingency	0	0.3433	-	KCPL-C3
FNSL-Blown up	00G12_017	1	18SP	G12_017		Non-converged Contingency	0	0.29824	-	KCPL-C3
FNSL-Blown up	0	1	23SP	G12_017		Non-converged Contingency	0	0.29057	-	KCPL-C3
FNSL-Blown up	00G12_017	1	23SP	G12_017		Non-converged Contingency	0	0.29049	-	KCPL-C3
FNSL-Blown up	9	1	13G	G12_017		Non-converged Contingency	0	0.0349	-	MIDW-CATD02B
FNSL-Blown up	09G12_017	1	13G	G12_017		Non-converged Contingency	0	0.03489	-	MIDW-CATD02B
FNSL-Blown up	0	1	18SP	G12_017		Non-converged Contingency	0	0.03104	-	MIDW-CATD02B
FDNS	09ALL	1	13G	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.13079	101.3905	KCPL-C2
FDNS	09ALL	1	13G	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.13079	100.8823	KCPL-C2
FDNS	09ALL	1	13G	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.13079	100.8045	KCPLB-6
FDNS	09ALL	1	13G	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.13079	100.2973	KCPLB-6
FDNS	0	1	13SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.12541	112.1372	KCPL-C2
FDNS	0	1	13SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.12541	111.3907	KCPLB-6
FDNS	0	1	13SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.12541	110.3594	KCPL-C2
FDNS	0	1	13SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.12541	109.6246	KCPLB-6
FDNS	00G12_017	1	13SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.1254	112.1721	KCPL-C2
FDNS	00G12_017	1	13SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.1254	111.4256	KCPLB-6
FDNS	00G12_017	1	13SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.1254	110.3952	KCPL-C2
FDNS	00G12_017	1	13SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.1254	109.6604	KCPLB-6
FDNS	0	1	18SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.10182	106.0624	KCPL-C2
FDNS	0	1	18SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.10182	105.3399	KCPLB-6
FDNS	0	1	18SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.10182	104.365	KCPL-C2
FDNS	0	1	18SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.10182	103.6533	KCPLB-6
FDNS	00G12_017	1	18SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.10181	106.0864	KCPL-C2
FDNS	00G12_017	1	18SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.10181	105.3638	KCPLB-6
FDNS	00G12_017	1	18SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.10181	104.3891	KCPL-C2
FDNS	00G12_017	1	18SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.10181	103.6774	KCPLB-6
FDNS	0	1	23SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09858	106.0616	KCPL-C2
FDNS	0	1	23SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09858	105.35	KCPLB-6
FDNS	0	1	23SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09858	104.3319	KCPL-C2
FDNS	0	1	23SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09858	103.6307	KCPLB-6
FDNS	00G12_017	1	23SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09856	105.9219	KCPL-C2
FDNS	00G12_017	1	23SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09856	105.2102	KCPLB-6
FDNS	00G12_017	1	23SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09856	104.1933	KCPL-C2
FDNS	00G12_017	1	23SP	G12_017	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09856	103.4919	KCPLB-6
FNSL-Blown up	0	1	13SP	G12_018		Non-converged Contingency	0	0.22627	-	KCPL-C3
FNSL-Blown up	00G12_018	1	18SP	G12_018		Non-converged Contingency	0	0.17976	-	KCPL-C3
FNSL-Blown up	0	1	23SP	G12_018		Non-converged Contingency	0	0.16802	-	KCPL-C3
FNSL-Blown up	03ALL	1	13G	G12_018		Non-converged Contingency	0	0.05191	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2
FNSL-Blown up	8	1	13G	G12_018		Non-converged Contingency	0	0.04434	-	MIDW-CATD02B
FNSL-Blown up	7	1	13G	G12_018		Non-converged Contingency	0	0.04432	-	MIDW-CATD02B
FNSL-Blown up	9	1	13G	G12_018		Non-converged Contingency	0	0.04416	-	MIDW-CATD02B
FNSL-Blown up	09G12_018	1	13G	G12_018		Non-converged Contingency	0	0.04414	-	MIDW-CATD02B
FNSL-Blown up	01ALL	1	13G	G12_018		Non-converged Contingency	0	0.03998	-	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FNSL-Blown up	0	1	18SP	G12_018		Non-converged Contingency	0	0.03972	-	MIDW-CATD02B
FNSL-Blown up	08ALL	1	13G	G12_018		Non-converged Contingency	0	0.03424	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	9	1	13G	G12_018		Non-converged Contingency	0	0.03238	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	09G12_018	1	13G	G12_018		Non-converged Contingency	0	0.03234	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	6	1	13G	G12_018		Non-converged Contingency	0	0.03231	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	09ALL	1	13G	G12_018		Non-converged Contingency	0	0.0322	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	01ALL	1	13G	G12_018		Non-converged Contingency	0	0.0318	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	3	1	13G	G12_018		Non-converged Contingency	0	0.03165	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_018		Non-converged Contingency	0	0.03087	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FDNS	9	1	13G	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	100.1239	CSPTHTCG1051

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	9	1	13G	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	100.1145	TWNCRHSG1051
FDNS	9	1	13G	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	100.1126	G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.0158	TWNCRHSG1051
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.0024	G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	126.9945	CSPTHTCG1051
FDNS	00G12_018	1	13WP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.3809	TWNCRHSG1051
FDNS	00G12_018	1	13WP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.3592	G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	1	13WP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.3415	CSPTHTCG1051
FDNS	00G12_018	1	18SP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.6488	TWNCRHSG1051
FDNS	00G12_018	1	18SP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.6335	CSPTHTCG1051
FDNS	00G12_018	1	18SP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.6299	G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	1	18WP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.2795	TWNCRHSG1051
FDNS	00G12_018	1	18WP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.2738	G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	1	18WP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.2666	CSPTHTCG1051
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.0774	TWNCRHSG1051
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.0626	G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.0418	CSPTHTCG1051
FDNS	09ALL	1	13G	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.0791	CSPTHTCG1051
FDNS	09ALL	1	13G	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.0601	TWNCRHSG1051
FDNS	09ALL	1	13G	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	127.0493	G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018	1	13G	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	119.4813	G10-51T 230.00 - HOSKINS 230KV CKT 1 &G10-51T 230.00 - TWIN CHURCH 230KV CKT 1
FDNS	09G12_018	1	13G	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	119.4772	CSPTHTCG1051
FDNS	09G12_018	1	13G	G12_018	FROM->TO	G10-51T 230.00 - RASMUSN 230KV CKT 1	320	1	119.474	TWNCRHSG1051
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.49949	105.6299	BUS-TWNCRH-N
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.40465	103.4296	BKR-TC-1110
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39814	101.186	CHERRYC3 345.00 - HOLT.CO3 345.00 345KV CKT 1 &GRAND ISLAND - HOLT.CO3 345.00 345KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39708	103.8066	KELLY - MADISONCO 230.00 230KV CKT 1 &COLUMEAST - KELLY 230KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39708	103.0924	G08-86N2 230.00 - MADISONCO 230.00 230KV CKT 1 &KELLY - MADISONCO 230.00 230KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.396	101.2654	GRAND ISLAND - MCCOOL 345KV CKT 1 &GRAND ISLAND - HOLT.CO3 345.00 345KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39532	101.5891	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39532	101.4967	GEN640009 1-COOPER NUCLEAR STATION
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39532	101.3006	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39532	100.8683	GEN645012 2-NEBRASKA CITY 2
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39532	100.7897	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39532	100.6803	GEN645011 1-NEBRASKA CITY 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39532	100	GEN542962 2-IATAN UNIT #2
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39525	103.183	KELLY - MADISONCO 230.00 230KV CKT 1 &KELLY - SHELL CREEK 230KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.3951	99.9	GERALD GENTLEMAN STATION - SWEETWATER 345KV CKT 1 &GERALD GENTLEMAN STATION - SWEETWATER 345KV CKT 2
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39506	104.2954	GRAND ISLAND - SWEETWATER 345KV CKT 1 &GRAND ISLAND - HOLT.CO3 345.00 345KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39481	100.3537	COOPER - SUB 3458 NEB CTY 345KV CKT 1 &103RD & ROKEBY - SUB 3458 NEB CTY 345KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39333	105.614	KELLY - MADISONCO 230.00 230KV CKT 1 &COLUMWEST - KELLY 230KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39295	104.8268	BUS-KELLY
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.39287	100.2189	COOPER - MOORE 345KV CKT 1 &MOORE - NW68TH & HOLDREGE 345KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.3876	104.4699	MOORE - NW68TH & HOLDREGE 345KV CKT 1 &NW68TH & HOLDREGE - WAGENER 345KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.38016	103.0865	COLUMEAST - NW68TH & HOLDREGE 345KV CKT 1 &NW68TH & HOLDREGE - WAGENER 345KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.38012	103.0526	COLUMEAST - NW68TH & HOLDREGE 345KV CKT 1 &MOORE - NW68TH & HOLDREGE 345KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.38006	103.5999	SUB-68TH-HLD
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.38003	103.6404	BKR-HLD-3004
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.37936	104.1966	D-CIR #20
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.37936	103.9598	TWR-ETR-SP
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.37808	103.6694	TWR-ETR-RS
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.37808	102.1886	TWR-ETR-CR
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.3774	101.1566	BKR-CE-3306
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.3774	101.1563	COLUMEAST - SHELL CREEK 345KV CKT 1 &COLUMEAST - NW68TH & HOLDREGE 345KV CKT 1
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.36125	124.6759	BKR-HOS-3312
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.35093	100.3687	TWR-SCH-CC
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	G10-51T 230.00 - HOSKINS 230KV CKT 1	192	0.25729	110.101	BKR-HOS-3310
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.11139	105.2383	BKR-HOS-3302
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.11139	103.868	BKR-HOS-3302
FDNS	00G12_018	1	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.1094	108.0028	BKR-HOS-3302
FDNS	00G12_018	1	18SP	G12_018	FROM->TO	HOSKINS (HOSKINS T1) 230/115/13.8KV TRANSFORMER CKT 1	187	0.1094	106.29	BKR-HOS-3302
FDNS	09ALL	1	13G	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08853	101.3905	KCPL-C2
FDNS	09ALL	1	13G	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08853	100.8823	KCPL-C2
FDNS	09ALL	1	13G	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08853	100.8045	KCPLB-6
FDNS	09ALL	1	13G	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08853	100.2973	KCPLB-6
FDNS	0	1	13SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08307	112.1372	KCPL-C2
FDNS	0	1	13SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08307	111.3907	KCPLB-6
FDNS	0	1	13SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08307	110.3594	KCPL-C2
FDNS	0	1	13SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08307	109.6246	KCPLB-6
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08296	117.1441	KCPL-C2
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08296	116.3994	KCPLB-6
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08296	115.3109	KCPL-C2
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.08296	114.5781	KCPLB-6
FDNS	01ALL	1	13G	G12_018	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.07143	111.7559	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_018	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.06347	104.2589	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	0	1	18SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06119	106.0624	KCPL-C2
FDNS	0	1	18SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06119	105.3399	KCPLB-6
FDNS	0	1	18SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06119	104.365	KCPL-C2
FDNS	0	1	18SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06119	103.6533	KCPLB-6
FDNS	00G12_018	1	18SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06106	109.9113	KCPL-C2
FDNS	00G12_018	1	18SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06106	109.1983	KCPLB-6
FDNS	00G12_018	1	18SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06106	108.1623	KCPL-C2
FDNS	00G12_018	1	18SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06106	107.4601	KCPLB-6
FDNS	0	1	23SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.05652	106.0616	KCPL-C2
FDNS	0	1	23SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.05652	105.35	KCPLB-6
FDNS	0	1	23SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.05652	104.3319	KCPL-C2
FDNS	0	1	23SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.05652	103.6307	KCPLB-6
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.0564	109.3034	KCPL-C2
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.0564	108.5917	KCPLB-6

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.0564	107.5417	KCPL-C2
FDNS	00G12_018	1	23SP	G12_018	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.0564	106.8403	KCPLB-6
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	COUNCIL BLUFFS - RIVER BEND 161KV CKT 1	199	0.04036	100.179	INT-CF-CSJ
FDNS	03ALL	1	13G	G12_018	FROM->TO	BENTON - ROSE HILL 345KV CKT 1	956	0.03446	105.3788	ROSE HILL - WOLF CREEK 345KV CKT 1 &ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1
FDNS	01ALL	1	13G	G12_018	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03256	100.9758	NOWST382
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	NASHUA - SHOAL CREEK 161KV CKT 1	334	0.03236	100.4764	KCPL-C2
FDNS	00G12_018	1	13SP	G12_018	FROM->TO	NASHUA - SHOAL CREEK 161KV CKT 1	334	0.03236	100	KCPLB-6
FDNS	01ALL	1	13G	G12_018	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.06766	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_018	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.06766	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	1	1	13G	G12_018	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.06564	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	1	1	13G	G12_018	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.06564	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	3	1	13G	G12_018	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.06173	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	3	1	13G	G12_018	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.06173	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_018	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.06073	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.06073	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0375	105.1203	WDRNG383
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03743	109.3098	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03743	109.2949	CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03743	109.0221	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03743	105.1125	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03743	105.0707	VIOLA 7 345.00 - WICHITA 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03743	104.888	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03696	111.4573	BENTON - WOLF CREEK 345KV CKT 1 &ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03613	110.9672	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03607	110.2384	SOONER - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03383	104.1253	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	00G12_018	1	13SP	G12_018	TO->FROM	GLADSTONE - SHOAL CREEK 161KV CKT 1	224	0.03236	104.7815	KCPL-C2
FDNS	00G12_018	1	13SP	G12_018	TO->FROM	GLADSTONE - SHOAL CREEK 161KV CKT 1	224	0.03236	104.1003	KCPLB-6
FDNS	03ALL	1	13G	G12_018	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03046	116.9972	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FNSL-Blown up	00G12_020	1	13SP	G12_020		Non-converged Contingency	0	0.60166	-	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FNSL-Blown up	00G12_020	1	13WP	G12_020		Non-converged Contingency	0	0.60132	-	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FNSL-Blown up	00G12_020	1	18WP	G12_020		Non-converged Contingency	0	0.59405	-	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FNSL-Blown up	00G12_020	1	13WP	G12_020		Non-converged Contingency	0	0.14756	-	BUSHLAND INTERCHANGE - POTTER COUNTY INTERCHANGE 230KV CKT 1 &BUFFALO 230.00 - BUSHLAND INTERCHANGE 230KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_020		Non-converged Contingency	0	0.10675	-	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FNSL-Blown up	01ALL	1	13G	G12_020		Non-converged Contingency	0	0.08846	-	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FNSL-Blown up	03ALL	1	13G	G12_020		Non-converged Contingency	0	0.06803	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_020		Non-converged Contingency	0	0.06803	-	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	3	1	13G	G12_020		Non-converged Contingency	0	0.03467	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_020		Non-converged Contingency	0	0.03401	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_020		Non-converged Contingency	0	0.03401	-	G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_020		Non-converged Contingency	0	0.03401	-	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1
FDNS	00G12_020	1	13WP	G12_020	FROM->TO	SPSSPPTIESB	620	0.34146	109.7013	BASE CASE
FDNS	00G12_020	1	13WP	G12_020	FROM->TO	SPSSPPTIESC1	620	0.34146	109.7013	BASE CASE
FDNS	00G12_020	1	18WP	G12_020	FROM->TO	SPSSPPTIESB	620	0.33834	102.3898	BASE CASE
FDNS	00G12_020	1	18WP	G12_020	FROM->TO	SPSSPPTIESC1	620	0.33834	102.3898	BASE CASE
FDNS	06ALL	1	13G	G12_020	FROM->TO	BUFFALO 230.00 - BUSHLAND INTERCHANGE 230KV CKT 1	350.5669	0.23031	105.2086	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	06ALL	1	13G	G12_020	FROM->TO	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	287	0.14258	107.9827	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	06ALL	1	13G	G12_020	FROM->TO	ELK CITY 230KV (ELKCTY-6) 230/138/13.8KV TRANSFORMER CKT 1	287	0.14258	105.5853	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.10758	123.7389	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1058	104.1758	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09839	101.3166	SUNSD314
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09823	102.2733	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09823	102.0182	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09821	102.3204	SUNSD384
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09809	101.931	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09736	101.4406	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09688	102.1658	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09154	101.4424	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.09105	100.9758	NOWST382
FDNS	06ALL	1	13G	G12_020	FROM->TO	KRESS INTERCHANGE - TULIA TAP 115KV CKT 1	96	0.0897	110.3784	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08928	103.2122	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08326	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0823	104.3617	MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07095	100.8442	MSTNG186
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0684	103.1034	DBLCCT10
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0684	100.8511	ARCAD311
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06543	101.4924	PLVAL138KV
FDNS	01ALL	1	13G	G12_020	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.04072	111.7559	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.04016	109.8812	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.0396	132.7525	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03944	161.5485	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	00G12_020	1	13SP	G12_020	FROM->TO	BAILEY COUNTY REC-EARTH INTERCHANGE - CASTRO COUNTY INTERCHANGE 115KV CKT 1	160	0.03923	111.7209	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03844	136.1557	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	1	1	13G	G12_020	FROM->TO	FPL SWITCH - MOORELAND 138KV CKT 1	287	0.03833	115.7099	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03681	102.3744	GRACEMONT - MINCO 345KV CKT 1 &GRACEMONT - SWEETWATER7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.0354	107.9746	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	3	1	13G	G12_020	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03499	103.1475	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	1	1	13G	G12_020	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.0346	115.5669	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.0338	105.3603	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03379	129.1009	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	06ALL	1	13G	G12_020	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.03347	101.3235	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.03277	104.2589	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	0	1	23SP	G12_020	FROM->TO	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	502	0.03122	103.5683	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_020	1	23SP	G12_020	FROM->TO	JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1	502	0.03122	105.891	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	3	1	13G	G12_020	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.03015	104.0265	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	3	1	13G	G12_020	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.03015	103.6142	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	06ALL	1	13G	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.19631	118.1476	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1
FDNS	00G12_020	1	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.10808	103.3786	G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1 &G12-038 345.00 - G12-038 TAP 345.00 345KV CKT 1
FDNS	06ALL	1	13G	G12_020	TO->FROM	HAPPY INTERCHANGE - TULIA TAP 115KV CKT 1	96	0.0897	106.5995	OKLAUNION - TUCO INTERCHANGE 345KV CKT 1 &G12-038 TAP 345.00 - TUCO INTERCHANGE 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	06ALL	1	13G	G12_020	TO->FROM	PLANT X STATION - TOLK STATION EAST 230KV CKT 2	502	0.06956	101.357	PLANT X STATION - TOLK STATION WEST 230KV CKT 1 &LAMB COUNTY INTERCHANGE - TOLK STATION WEST 230KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06771	104.6281	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06732	104.4548	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06722	102.4198	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	110.9132	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	106.4971	CRSRDSW7 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	106.4954	G07-21 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	106.4788	G11_024_1 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	106.4778	G08-19 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	106.2272	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	106.2164	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	106.1494	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	105.1371	G11_020_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	105.1371	G11_019_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06503	103.4113	G07-62 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06499	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06499	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06407	100.6478	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06284	115.1894	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06274	105.5943	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05983	105.2165	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05885	100.5967	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05874	104.1698	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05792	103.8295	KCPL-CROW#01
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05787	103.7136	SWISSVALE - WEST GARDNER 345KV CKT 1 &STILWELL - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05786	103.6006	KCPLCROW02-G
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05769	101.689	BKR-AXT-3308
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05767	101.5604	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05763	101.6526	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - SWEETWATER 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05753	106.8369	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05741	102.5019	SWISSVALE - WEST GARDNER 345KV CKT 1 &CRAIG - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05663	99.9	WDRNG315-13
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05563	105.0632	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05543	101.8717	HOYT - STRANGER CREEK 345KV CKT 1 &IATAN - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05527	102.2378	HOYT - STRANGER CREEK 345KV CKT 1 &87th STREET - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05521	102.2509	KCPLB-5
FDNS	3	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05512	103.5036	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05511	105.7551	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05373	122.2898	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05373	103.3955	BASE CASE
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05336	110.2384	SOONER - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.05229	110.9672	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04836	105.1203	WDRNG383
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0483	109.3098	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0483	109.2949	CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0483	109.0221	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0483	105.1125	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0483	105.0707	VIOLA 7 345.00 - WICHITA 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0483	104.888	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	00G12_020	1	13SP	G12_020	TO->FROM	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1	351	0.04475	107.4125	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04221	116.9972	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	6	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04044	103.867	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06G12_020	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04024	114.1319	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ALL	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.04023	113.4255	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.04016	104.7624	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	07ALL	1	13G	G12_020	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03985	107.0162	CMARN384
FDNS	07ALL	1	13G	G12_020	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03985	107.0162	DBLCCT8
FDNS	07ALL	1	13G	G12_020	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03962	106.161	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 &GRACEMONT - MINCO 345KV CKT 1
FDNS	1	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0396	198.7475	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	07ALL	1	13G	G12_020	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03959	105.8892	CMARN383
FDNS	01ALL	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03944	237.1105	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	0	1	13SP	G12_020	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03936	127.0507	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_020	1	13SP	G12_020	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03923	142.0837	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	6	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03848	114.3186	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03844	191.1355	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	1	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03833	167.6808	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06ALL	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03832	123.8553	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	06G12_020	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03832	124.4583	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	07ALL	1	13G	G12_020	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03824	102.755	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.03821	130.4828	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3	1	13G	G12_020	TO->FROM	FPL SWITCH - WOODWARD 138KV CKT 1	153	0.0377	122.4601	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_020	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0351	111.4573	BENTON - WOLF CREEK 345KV CKT 1 &ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	07ALL	1	13G	G12_020	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.03464	106.2471	CIMARRONR
FNSL-Blown up	0	1	13SP	G12_021		Non-converged Contingency	0	0.25627	-	KCPL-C3
FNSL-Blown up	00G12_021	1	18SP	G12_021		Non-converged Contingency	0	0.20424	-	KCPL-C3
FNSL-Blown up	0	1	23SP	G12_021		Non-converged Contingency	0	0.19506	-	KCPL-C3
FNSL-Blown up	00G12_021	1	23SP	G12_021		Non-converged Contingency	0	0.19498	-	KCPL-C3
FNSL-Blown up	0	1	18SP	G12_021		Non-converged Contingency	0	0.04372	-	MIDW-CATD02B
FNSL-Blown up	0	1	13WP	G12_021		Non-converged Contingency	0	0.03217	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	00G12_021	1	13WP	G12_021		Non-converged Contingency	0	0.03217	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FDNS	0	1	13SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09498	112.1372	KCPL-C2
FDNS	0	1	13SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09498	111.3907	KCPLB-6
FDNS	0	1	13SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09498	110.3594	KCPL-C2
FDNS	0	1	13SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09498	109.6246	KCPLB-6
FDNS	00G12_021	1	13SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09497	112.1721	KCPL-C2
FDNS	00G12_021	1	13SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09497	111.4256	KCPLB-6
FDNS	00G12_021	1	13SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09497	110.3952	KCPL-C2

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00G12_021	1	13SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.09497	109.6604	KCPLB-6
FDNS	0	1	18SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.07025	106.0624	KCPL-C2
FDNS	0	1	18SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.07025	105.3399	KCPLB-6
FDNS	0	1	18SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.07025	104.365	KCPL-C2
FDNS	0	1	18SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.07025	103.6533	KCPLB-6
FDNS	00G12_021	1	18SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.07024	106.0864	KCPL-C2
FDNS	00G12_021	1	18SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.07024	105.3638	KCPLB-6
FDNS	00G12_021	1	18SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.07024	104.3891	KCPL-C2
FDNS	00G12_021	1	18SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.07024	103.6774	KCPLB-6
FDNS	0	1	23SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.0666	106.0616	KCPL-C2
FDNS	0	1	23SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.0666	105.35	KCPLB-6
FDNS	0	1	23SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.0666	104.3319	KCPL-C2
FDNS	0	1	23SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.0666	103.6307	KCPLB-6
FDNS	00G12_021	1	23SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06657	105.9219	KCPL-C2
FDNS	00G12_021	1	23SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06657	105.2102	KCPLB-6
FDNS	00G12_021	1	23SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06657	104.1933	KCPL-C2
FDNS	00G12_021	1	23SP	G12_021	FROM->TO	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11	660	0.06657	103.4919	KCPLB-6
FNSL-Blown up	08G12_023	1	13G	G12_023		Non-converged Contingency	0	1	-	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FNSL-Blown up	00G12_023	1	13SP	G12_023		Non-converged Contingency	0	0.97938	-	G10-05 345.00 - VIOLA 7 345.00 345KV CKT 1 &G7-25&G12-23345.00 - VIOLA 7 345.00 345KV CKT 1
FNSL-Blown up	00G12_023	1	13WP	G12_023		Non-converged Contingency	0	0.0449	-	ROSE HILL - WOLF CREEK 345KV CKT 1 &ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_023		Non-converged Contingency	0	0.04113	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_023		Non-converged Contingency	0	0.04113	-	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	08ALL	1	13G	G12_023	FROM->TO	HUNTERS7 345.00 - WOODRING 345KV CKT 1	956	1	103.9854	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	08ALL	1	13G	G12_023	FROM->TO	HUNTERS7 345.00 - WOODRING 345KV CKT 1	956	1	103.9833	RENO COUNTY - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	08ALL	1	13G	G12_023	FROM->TO	HUNTERS7 345.00 - WOODRING 345KV CKT 1	956	1	103.9767	VIOLA 7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1
FDNS	08ALL	1	13G	G12_023	FROM->TO	HUNTERS7 345.00 - WOODRING 345KV CKT 1	956	1	103.9767	VIOLA 7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	08ALL	1	13G	G12_023	FROM->TO	HUNTERS7 345.00 - WOODRING 345KV CKT 1	956	1	103.9664	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.18212	111.7559	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_023	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.17416	104.2589	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_023	FROM->TO	BENTON - ROSE HILL 345KV CKT 1	956	0.13706	105.3788	ROSE HILL - WOLF CREEK 345KV CKT 1 &ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1
FDNS	3	1	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0964	104.0265	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	3	1	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0964	103.6142	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0956	119.8587	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.0956	119.6552	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08798	100.9758	NOWST382
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0845	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.08306	104.1248	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.08306	103.9638	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08037	123.7389	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	3	1	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.07911	112.055	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	1	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07859	104.1758	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	MAIZE - MAIZEE 4 138.00 138KV CKT 1	478	0.07858	103.2759	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.07858	131.9549	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07783	111.7663	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07783	111.4328	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07756	107.0979	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07756	107.0562	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07751	102.3744	GRACEMONT - MINCO 345KV CKT 1 &GRACEMONT - SWEETWATER7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.07505	112.3746	RENO COUNTY - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	00G12_023	1	23SP	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.07405	100.0892	RENO COUNTY - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07298	103.1034	DBLCCT10
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07236	100.8511	ARCAD311
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07138	103.2122	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.07004	113.0693	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.07004	113.0693	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06979	102.1658	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06967	102.2733	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06967	102.0182	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06966	102.3204	SUNSD384
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06959	101.3166	SUNSD314
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06955	101.931	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06906	101.4406	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06901	101.4424	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06761	100.8442	MSTNG186
FDNS	3	1	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06384	110.4218	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06383	101.4924	PLVAL138KV
FDNS	03ALL	1	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06345	126.8233	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	3	1	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06206	102.7612	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	00G12_023	1	23SP	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06183	108.5191	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06166	118.2981	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	00G12_023	1	23SP	G12_023	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06117	100.2489	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04359	104.3617	MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03604	115.4663	NOWST382
FDNS	01ALL	1	13G	G12_023	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03604	113.8905	NOWST382
FDNS	1	1	13G	G12_023	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03541	108.5021	NOWST382
FDNS	1	1	13G	G12_023	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03541	106.6839	NOWST382
FDNS	3	1	13G	G12_023	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03413	101.6277	NOWST382
FDNS	03ALL	1	13G	G12_023	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03392	107.7045	NOWST382
FDNS	03ALL	1	13G	G12_023	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03392	105.999	NOWST382
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03245	119.4403	CMARN385
FDNS	01ALL	1	13G	G12_023	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03245	116.9509	CMARN385
FDNS	1	1	13G	G12_023	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03188	111.3869	CMARN385
FDNS	1	1	13G	G12_023	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03188	108.7613	CMARN385
FDNS	03ALL	1	13G	G12_023	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03082	101.0945	CMARN385
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32084	105.1203	WDRNG383
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32068	109.3098	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32068	109.2949	CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32068	109.0221	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32068	105.1125	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.32068	104.888	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.31831	110.9672	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.3183	110.2384	SOONER - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.2551	99.9	WDRNG315-13
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.22285	104.6281	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.22221	104.4548	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.22207	102.4198	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.21445	104.1253	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.21404	100.6478	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20444	105.2165	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.2023	100.5967	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20066	103.8295	KCPL-CROW#01
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20051	103.7136	SWISSVALE - WEST GARDNER 345KV CKT 1 &STILWELL - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.2005	116.9972	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20049	103.6006	KCPLCROW02-G
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20006	102.5019	SWISSVALE - WEST GARDNER 345KV CKT 1 &CRAIG - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19879	104.1698	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19848	106.8369	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19575	105.0632	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19566	101.689	BKR-AXT-3308
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19565	101.5604	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19564	101.6526	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - SWEETWATER 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19519	101.8717	HOYT - STRANGER CREEK 345KV CKT 1 &IATAN - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19482	102.2378	HOYT - STRANGER CREEK 345KV CKT 1 &87th STREET - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19479	105.7551	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19475	102.2509	KCPLB-5
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19453	105.5943	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19349	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19349	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	110.9132	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	106.4971	CRSRDSW7 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	106.4954	G07-21 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	106.4788	G11_024_1 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	106.4778	G08-19 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	106.2272	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	106.2164	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	106.1494	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	105.1371	G11_020_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	105.1371	G11_019_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19343	103.4113	G07-62 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1929	103.5036	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19151	122.2898	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19151	103.3955	BASE CASE
FDNS	01ALL	1	13G	G12_023	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.17213	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_023	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.17213	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	1	1	13G	G12_023	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.17011	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	1	1	13G	G12_023	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.17011	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	3	1	13G	G12_023	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.1662	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	3	1	13G	G12_023	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.1662	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_023	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.1652	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.1652	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_023	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15597	111.4573	BENTON - WOLF CREEK 345KV CKT 1 &ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	3	1	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.07911	109.3196	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	MAIZE - MAIZEW 4 138.00 138KV CKT 1	478	0.07858	105.45	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.07858	129.2231	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.07505	109.648	RENO COUNTY - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.07004	110.3537	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.07004	110.3537	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	3	1	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06384	107.6778	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	MAIZE - MAIZEW 4 138.00 138KV CKT 1	478	0.06345	101.3524	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06345	124.0387	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	3	1	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06206	100	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	00G12_023	1	23SP	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06183	103.6007	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06166	115.532	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	00G12_023	1	13SP	G12_023	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.0364	102.5414	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
FDNS	00G12_023	1	23SP	G12_023	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03622	101.321	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
FDNS	00G12_023	1	18SP	G12_023	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03545	100.7086	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	CENTENNIAL - COWSKIN 138KV CKT 1	232	0.03088	108.9156	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_023	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03032	100.1847	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
FNSL-Blown up	3	1	13G	G12_024		Non-converged Contingency	0	1	-	CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1
FNSL-Blown up	3	1	13G	G12_024		Non-converged Contingency	0	1	-	CLARKCOUNTY7345.00 - G11_023_1 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	13SP	G12_024		Non-converged Contingency	0	1	-	CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	18SP	G12_024		Non-converged Contingency	0	1	-	CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	23SP	G12_024		Non-converged Contingency	0	1	-	CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	1	-	CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	1	-	CLARKCOUNTY7345.00 - G11_023_1 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1
FNSL-Blown up	03G12_024	1	13G	G12_024		Non-converged Contingency	0	1	-	CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1
FNSL-Blown up	03G12_024	1	13G	G12_024		Non-converged Contingency	0	1	-	CLARKCOUNTY7345.00 - G11_023_1 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G12-024 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.44166	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2
FNSL-Blown up	00G12_024	1	13WP	G12_024		Non-converged Contingency	0	0.27946	-	CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	13WP	G12_024		Non-converged Contingency	0	0.27946	-	CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	18SP	G12_024		Non-converged Contingency	0	0.27943	-	CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	18SP	G12_024		Non-converged Contingency	0	0.27943	-	CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	23SP	G12_024		Non-converged Contingency	0	0.27935	-	CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	23SP	G12_024		Non-converged Contingency	0	0.27935	-	CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.23466	-	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FNSL-Blown up	3	1	13G	G12_024		Non-converged Contingency	0	0.22145	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FNSL-Blown up	3	1	13G	G12_024		Non-converged Contingency	0	0.22145	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	03G12_024	1	13G	G12_024		Non-converged Contingency	0	0.22132	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	03G12_024	1	13G	G12_024		Non-converged Contingency	0	0.22132	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.22083	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.22083	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11_023_1 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.22083	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.22083	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11_023_1 345.00 345KV CKT 1
FNSL-Blown up	03G12_024	1	13G	G12_024		Non-converged Contingency	0	0.22054	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	18WP	G12_024		Non-converged Contingency	0	0.21987	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 1 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	00G12_024	1	18WP	G12_024		Non-converged Contingency	0	0.21987	-	CLARKCOUNTY7345.00 - THISTLE7 345.00 345KV CKT 2 &CLARKCOUNTY7345.00 - G11-008 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.21907	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.21907	-	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.19185	-	G12-11T 345.00 - POST ROCK 345KV CKT 1 &AXTELL - POST ROCK 345KV CKT 1
FNSL-Blown up	01ALL	1	13G	G12_024		Non-converged Contingency	0	0.12387	-	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FNSL-Blown up	03G12_024	1	13G	G12_024		Non-converged Contingency	0	0.11027	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1
FNSL-Blown up	3	1	13G	G12_024		Non-converged Contingency	0	0.11019	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.10954	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.10954	-	G11-17T 345.00 - G11_017_1 345.00 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.10954	-	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.10954	-	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1
FNSL-Blown up	08ALL	1	13G	G12_024		Non-converged Contingency	0	0.05045	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	9	1	13G	G12_024		Non-converged Contingency	0	0.04859	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	6	1	13G	G12_024		Non-converged Contingency	0	0.04852	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	09ALL	1	13G	G12_024		Non-converged Contingency	0	0.04841	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	01ALL	1	13G	G12_024		Non-converged Contingency	0	0.04801	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	3	1	13G	G12_024		Non-converged Contingency	0	0.04786	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	03G12_024	1	13G	G12_024		Non-converged Contingency	0	0.04768	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_024		Non-converged Contingency	0	0.04708	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	00G12_024	1	18WP	G12_024		Non-converged Contingency	0	0.04577	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	0	1	13WP	G12_024		Non-converged Contingency	0	0.04559	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	00G12_024	1	13WP	G12_024		Non-converged Contingency	0	0.04539	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	00G12_024	1	23SP	G12_024		Non-converged Contingency	0	0.03483	-	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FNSL-Blown up	0	1	18SP	G12_024		Non-converged Contingency	0	0.03476	-	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FNSL-Blown up	00G12_024	1	18SP	G12_024		Non-converged Contingency	0	0.03386	-	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FNSL-Blown up	0	1	13SP	G12_024		Non-converged Contingency	0	0.03231	-	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FNSL-Blown up	00G12_024	1	13SP	G12_024		Non-converged Contingency	0	0.03142	-	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FNSL-Blown up	00G12_024	1	13WP	G12_024		Non-converged Contingency	0	0.03091	-	ROSE HILL - WOLF CREEK 345KV CKT 1 &ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.15083	111.7559	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.14287	104.2589	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	FROM->TO	BENTON - ROSE HILL 345KV CKT 1	956	0.11911	105.3788	ROSE HILL - WOLF CREEK 345KV CKT 1 &ANDERSONCO 345.00 - WOLF CREEK 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07984	100.9758	NOWST382
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07943	123.7389	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07765	104.1758	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07569	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	3	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07114	104.1257	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	3	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07114	103.7657	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07102	107.4261	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07102	107.2458	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07042	120.5848	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.07042	120.4018	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	3	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06955	113.8409	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06947	117.8485	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	MAIZE - MAIZEE 4 138.00 138KV CKT 1	478	0.06908	106.3542	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06908	135.8286	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06677	103.2122	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06587	102.1658	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06585	102.2733	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06585	102.0182	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06584	102.3204	SUNSD384
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06581	101.3166	SUNSD314
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06574	101.931	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06529	101.4406	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06479	102.3744	GRACEMONT - MINCO 345KV CKT 1 &GRACEMONT - SWEETWATER7 345.00 345KV CKT 1
FDNS	3	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.06453	104.0265	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	3	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.06453	103.6142	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06445	103.1034	DBLCCT10
FDNS	03G12_024	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.06441	107.0525	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.06441	106.7976	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06427	101.4424	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06406	100.8511	ARCAD311
FDNS	00G12_024	1	23SP	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06378	100.6933	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.06373	119.8587	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.06373	119.6552	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	3	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.0622	112.055	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06212	115.7234	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	MAIZE - MAIZEE 4 138.00 138KV CKT 1	478	0.06168	103.2759	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.06168	131.9549	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06157	100.8442	MSTNG186
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.06118	104.7556	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.06118	104.6119	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05877	104.3617	MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05749	101.4924	PLVAL138KV
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05537	104.1248	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT11X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05537	103.9638	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.054	102.2788	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.054	101.7795	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05345	111.7663	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05345	111.4328	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	3	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05333	110.4218	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03G12_024	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05327	113.3406	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05294	126.8233	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05235	107.0979	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	WICHITA (WICHT12X) 345/138/13.8KV TRANSFORMER CKT 1	440	0.05235	107.0562	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	00G12_024	1	18SP	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05136	100.9604	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	3	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05036	102.7612	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.05029	105.5947	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04996	118.2981	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	00G12_024	1	23SP	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04961	108.3452	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04957	100.1304	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04957	100.1304	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04952	112.3746	RENO COUNTY - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04926	113.0693	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04926	113.0693	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00G12_024	1	23SP	G12_024	FROM->TO	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	382	0.04786	100	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	AXTELL (AXTELL T1) 345/115/13.8KV TRANSFORMER CKT 1	336	0.0473	106.3884	AXTELL - PAULINE 345KV CKT 1 &AXTELL - SWEETWATER 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	AXTELL (AXTELL T1) 345/115/13.8KV TRANSFORMER CKT 1	336	0.0473	104.3018	AXTELL - PAULINE 345KV CKT 1 &AXTELL - SWEETWATER 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	RENO COUNTY (RENO 2X) 345/115/14.4KV TRANSFORMER CKT 1	308	0.04386	110.6218	RENO COUNTY - SUMMIT 345KV CKT 1 &RENO COUNTY - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	RENO COUNTY (RENO 2X) 345/115/14.4KV TRANSFORMER CKT 1	308	0.04386	110.0883	RENO COUNTY - SUMMIT 345KV CKT 1 &RENO COUNTY - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	RENO COUNTY (RENO 1X) 345/115/14.4KV TRANSFORMER CKT 1	308	0.04199	105.8419	RENO COUNTY - SUMMIT 345KV CKT 1 &RENO COUNTY - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	RENO COUNTY (RENO 1X) 345/115/14.4KV TRANSFORMER CKT 1	308	0.04199	105.3643	RENO COUNTY - SUMMIT 345KV CKT 1 &RENO COUNTY - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.04001	101.9986	MULGREN7 345.00 - SPEARVILLE 345KV CKT 1 &MULGREN7 345.00 - SPEARVILLE 345KV CKT 2
FDNS	03G12_024	1	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.04001	101.7819	MULGREN7 345.00 - RENO COUNTY 345KV CKT 1 &MULGREN7 345.00 - RENO COUNTY 345KV CKT 2
FDNS	00G12_024	1	18SP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03995	128.3394	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	0	1	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03929	113.3537	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00G12_024	1	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03919	153.6462	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	0	1	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03881	117.7167	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00G12_024	1	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03871	157.0856	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00G12_024	1	23SP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03809	119.634	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03706	115.1478	BKR-AXT-3308
FDNS	03ALL	1	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03705	114.9597	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03703	115.0801	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - SWEETWATER 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03368	100.8563	RENO COUNTY - SUMMIT 345KV CKT 1 &MULGREN7 345.00 - RENO COUNTY 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.03368	100.8563	RENO COUNTY - SUMMIT 345KV CKT 1 &MULGREN7 345.00 - RENO COUNTY 345KV CKT 2
FDNS	00G12_024	1	13WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03333	104.0408	CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 1 &CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 2
FDNS	00G12_024	1	18WP	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03326	105.8454	CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 1 &CLARKCOUNTY7345.00 - SPEARVILLE 345KV CKT 2
FDNS	00G12_024	1	13SP	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03134	111.5862	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	7	1	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03099	107.1752	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	07ALL	1	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03095	112.0743	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	07ALL	1	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03095	100.6868	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	1	1	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03093	142.1527	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	1	1	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03093	130.8414	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	6	1	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03086	109.5471	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	01ALL	1	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03083	161.1474	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	01ALL	1	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03083	145.1548	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	06ALL	1	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03078	115.3831	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	06ALL	1	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03078	104.0265	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	3	1	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03066	195.8011	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	3	1	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03066	174.2364	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	03G12_024	1	13G	G12_024	FROM->TO	FLATRDG3 - HARPER 138KV CKT 1	95.6	0.03062	203.2353	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	03G12_024	1	13G	G12_024	FROM->TO	HARPER - MILAN TAP 138KV CKT 1	95.6	0.03062	181.6056	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	01ALL	1	13G	G12_024	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03044	115.4663	NOWST382
FDNS	01ALL	1	13G	G12_024	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03044	113.8905	NOWST382
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.20379	115.1894	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.19204	104.1253	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1834	110.2384	SOONER - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18336	105.1203	WDRNG383
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18319	116.9972	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18309	109.3098	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18309	109.2949	CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1 &HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18309	109.0221	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &CHSHLMV7 345.00 - HUNTERS7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18309	105.1125	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18309	105.0707	VIOLA 7 345.00 - WICHITA 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18309	104.888	HUNTERS7 345.00 - VIOLA 7 345.00 345KV CKT 1 &FLTRDGESUB 345.00 - VIOLA 7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.18263	110.9672	HUNTERS7 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - WOODRING 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17562	106.8369	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.17014	104.6281	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16989	99.9	WDRNG315-13
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16941	105.5943	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1693	104.4548	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16863	102.4198	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	110.9132	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	106.4971	CRSRDSW7 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	106.4954	G07-21 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	106.4788	G11_024_1 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	106.4778	G08-19 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	106.2272	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	106.2164	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	106.1494	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	105.1371	G11_020_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	105.1371	G11_019_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16857	103.4113	G07-62 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16853	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16853	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16626	100.6478	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16479	105.2165	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16332	102.5019	SWISSVALE - WEST GARDNER 345KV CKT 1 &CRAIG - WEST GARDNER 345KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16313	101.689	BKR-AXT-3308
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16311	101.5604	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16305	101.6526	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - SWEETWATER 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16293	104.1698	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16257	103.8295	KCPL-CROW#01
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16234	103.7136	SWISSVALE - WEST GARDNER 345KV CKT 1 &STILWELL - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16232	103.6006	KCPLCROW02-G
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.16074	100.5967	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15783	105.0632	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.1571	101.8717	HOYT - STRANGER CREEK 345KV CKT 1 &IATAN - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15704	102.2509	KCPLB-5
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15699	102.2378	HOYT - STRANGER CREEK 345KV CKT 1 &87th STREET - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15686	105.7551	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FDNS	3	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15377	103.5036	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15355	107.0355	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15238	122.2898	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.15238	103.3955	BASE CASE
FDNS	01ALL	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.13752	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.13752	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	1	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.1355	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	1	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.1355	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	3	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.13159	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	3	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.13159	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03G12_024	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.13152	107.9101	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.13152	107.9101	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.13059	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.13059	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.12937	111.4573	BENTON - WOLF CREEK 345KV CKT 1 &ROSE HILL - WOLF CREEK 345KV CKT 1
FDNS	3	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06955	111.1046	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06947	115.113	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	MAIZE - MAIZEW 4 138.00 138KV CKT 1	478	0.06908	108.5453	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06908	133.0745	BENTON - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06622	104.051	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06622	103.9682	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06622	103.8037	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1
FDNS	3	1	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06586	101.3525	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	3	1	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06586	101.2817	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1
FDNS	3	1	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06586	101.1378	G11-17T 345.00 - G12-11T 345.00 345KV CKT 1 &G12-11T 345.00 - G12_011_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	MULLERGREN - SPEARVILLE 230KV CKT 1	355.3	0.06581	112.2844	G10_061_1 345.00 - G11-17T 345.00 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	3	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.0622	109.3196	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06212	112.9899	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	MAIZE - MAIZEW 4 138.00 138KV CKT 1	478	0.06168	105.45	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.06168	129.2231	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	3	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05333	107.6778	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05327	110.5985	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	MAIZE - MAIZEW 4 138.00 138KV CKT 1	478	0.05294	101.3524	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05294	124.0387	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	3	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05036	100	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.05029	102.8671	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.04996	115.532	BENTON - ROSE HILL 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	00G12_024	1	23SP	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.04961	103.429	BENTON - WICHITA 345KV CKT 1 &BENTON - WOLF CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.04952	109.648	RENO COUNTY - WICHITA 345KV CKT 1 &BENTON - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.04926	110.3537	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	382	0.04926	110.3537	BENTON - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00G12_024	1	13SP	G12_024	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.04681	104.0742	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
FDNS	00G12_024	1	23SP	G12_024	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.04569	103.0135	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
FDNS	00G12_024	1	18SP	G12_024	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.04566	102.9971	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
FDNS	03G12_024	1	13G	G12_024	TO->FROM	CIRCLE - MULLERGREN 230KV CKT 1	319	0.04476	104.0587	MULGREN7 345.00 - SPEARVILLE 345KV CKT 1 &MULGREN7 345.00 - SPEARVILLE 345KV CKT 2
FDNS	03G12_024	1	13G	G12_024	TO->FROM	CIRCLE - MULLERGREN 230KV CKT 1	319	0.04476	103.235	MULGREN7 345.00 - RENO COUNTY 345KV CKT 1 &MULGREN7 345.00 - RENO COUNTY 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.04038	100.1847	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
FDNS	00G12_024	1	18SP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03995	100.8444	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00G12_024	1	13WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03919	126.2564	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	00G12_024	1	18WP	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03871	128.9539	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	03ALL	1	13G	G12_024	TO->FROM	MOUNDRIDGE - RENO COUNTY 115KV CKT 1	245	0.03731	119.9391	RENO COUNTY - SUMMIT 345KV CKT 1 &RENO COUNTY - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	MOUNDRIDGE - RENO COUNTY 115KV CKT 1	245	0.03338	110.5338	RENO COUNTY - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_024	TO->FROM	MOUNDRIDGE - RENO COUNTY 115KV CKT 1	245	0.03338	110.5338	RENO COUNTY - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	1	1	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03093	107.8974	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	01ALL	1	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03083	120.3296	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	3	1	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03066	138.3188	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	03G12_024	1	13G	G12_024	TO->FROM	CLEARWATER - MILAN TAP 138KV CKT 1	110	0.03062	144.6531	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FDNS	8	1	13G	G12_024	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	0.03011	100.8282	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1 &EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
FNSL-Blown up	04NR	1	13G	G12_026		Non-converged Contingency	0	0.09789	-	KNOLL 230 - POSTROCK6 230.00 230KV CKT 1 &G08-92 230.00 - KNOLL 230 230KV CKT 1
FNSL-Blown up	0	1	13WP	G12_026		Non-converged Contingency	0	0.09713	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	0	1	13WP	G12_026		Non-converged Contingency	0	0.04856	-	SMKYP1 6 230.00 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	00NR	1	13SP	G12_026		Non-converged Contingency	0	0.04517	-	KCPL-C3
FNSL-Blown up	00NR	1	13WP	G12_026		Non-converged Contingency	0	0.04389	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	04NR	1	13G	G12_026		Non-converged Contingency	0	0.04302	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	00NR	1	18WP	G12_026		Non-converged Contingency	0	0.03619	-	KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1 &SMOKYHL6 230.00 - SUMMIT 230KV CKT 1
FNSL-Blown up	04NR	1	13G	G12_026		Non-converged Contingency	0	0.03588	-	HAYS WIND - SOUTH HAYS 230KV CKT 1 &MULLERGREN - SOUTH HAYS 230KV CKT 1
FNSL-Blown up	04NR	1	13G	G12_026		Non-converged Contingency	0	0.03588	-	MULLERGREN - SOUTH HAYS 230KV CKT 1 &G09-08 230.00 - SOUTH HAYS 230KV CKT 1
FNSL-Blown up	0	1	13SP	G12_026		Non-converged Contingency	0	0.03462	-	KCPL-C3
FNSL-Blown up	00G12_026	1	13SP	G12_026		Non-converged Contingency	0	0.0346	-	KCPL-C3
FDNS	04NR	1	13G	G12_026	FROM->TO	KNOLL 230 (KNOLL T1) 230/115/11.49KV TRANSFORMER CKT 1	224	0.16084	112.4357	POSTROCK6 230.00 - SOUTH HAYS 230KV CKT 1 &MULLERGREN - SOUTH HAYS 230KV CKT 1
FDNS	04NR	1	13G	G12_026	FROM->TO	KNOLL 230 (KNOLL T1) 230/115/11.49KV TRANSFORMER CKT 1	224	0.16084	106.4827	POSTROCK6 230.00 - SOUTH HAYS 230KV CKT 1 &MULLERGREN - SOUTH HAYS 230KV CKT 1
FDNS	04NR	1	13G	G12_026	FROM->TO	KNOLL - N HAYS3 115.00 115KV CKT 1	99	0.13804	123.3458	KNOLL 230 - POSTROCK6 230.00 230KV CKT 1 &KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1
FDNS	04NR	1	13G	G12_026	FROM->TO	N HAYS3 115.00 - VINE STREET 115KV CKT 1	99	0.13804	118.5648	KNOLL 230 - POSTROCK6 230.00 230KV CKT 1 &KNOLL 230 - SMOKYHL6 230.00 230KV CKT 1
FDNS	04NR	1	13G	G12_026	FROM->TO	G12_002T 115.00 - PILE 115KV CKT 1	198	0.10517	103.9438	HOLCOMB - SETAB 345KV CKT 1 &MINGO - SETAB 345KV CKT 1
FDNS	04NR	1	13G	G12_026	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.07489	101.4799	KNOLL 230 - POSTROCK6 230.00 230KV CKT 1 &POSTROCK6 230.00 - SOUTH HAYS 230KV CKT 1
FDNS	04NR	1	13G	G12_026	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.07489	101.4799	MIDW-CATDO5

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	04NR	1	13G	G12_026	FROM->TO	SMOKYHL6 230.00 - SUMMIT 230KV CKT 1	319	0.05933	104.3104	G12-11T 345.00 - POST ROCK 345KV CKT 1 &AXTELL - POST ROCK 345KV CKT 1
FDNS	0	1	13SP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	105.2298	MIDW-CATC04B
FDNS	0	1	13WP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	108.1505	MIDW-CATC04B
FDNS	0	1	18SP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	103.2431	MIDW-CATC04B
FDNS	0	1	18WP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	107.8327	MIDW-CATC04B
FDNS	0	1	23SP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	104.0371	MIDW-CATC04B
FDNS	00G12_026	1	13SP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	105.6602	MIDW-CATC04B
FDNS	00G12_026	1	13WP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	108.1389	MIDW-CATC04B
FDNS	00G12_026	1	18SP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	104.7196	MIDW-CATC04B
FDNS	00G12_026	1	18WP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	107.8697	MIDW-CATC04B
FDNS	00G12_026	1	23SP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	104.478	MIDW-CATC04B
FDNS	00NR	1	13SP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	107.1309	MIDW-CATC04B
FDNS	00NR	1	13WP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	108.397	MIDW-CATC04B
FDNS	00NR	1	18SP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	104.6955	MIDW-CATC04B
FDNS	00NR	1	18WP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	106.8645	MIDW-CATC04B
FDNS	00NR	1	23SP	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	109.3752	MIDW-CATC04B
FDNS	04NR	1	13G	G12_026	TO->FROM	ATWOOD - COLBY 115KV CKT 1	77	1	108.5392	MIDW-CATC04B
FDNS	04NR	1	13G	G12_026	TO->FROM	GANO 3 115.00 - PILE 115KV CKT 1	198	0.10517	103.1072	HOLCOMB - SETAB 345KV CKT 1 &MINGO - SETAB 345KV CKT 1
FDNS	04NR	1	13G	G12_026	TO->FROM	DOBSON - GANO 3 115.00 115KV CKT 1	198	0.10517	103.0575	HOLCOMB - SETAB 345KV CKT 1 &MINGO - SETAB 345KV CKT 1
FDNS	04NR	1	13G	G12_026	TO->FROM	SCOTT CITY - SETAB 115KV CKT 1	198	0.04347	119.0727	HOLCOMB - SETAB 345KV CKT 1 &MINGO - SETAB 345KV CKT 1
FDNS	0	1	13SP	G12_027	FROM->TO	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1	152	0.29936	100.8284	SONR184
FDNS	00G12_027	1	13SP	G12_027	FROM->TO	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1	152	0.29936	123.7432	SONR184
FDNS	03ALL	1	13G	G12_027	FROM->TO	BENTON - WICHITA 345KV CKT 1	932	0.06743	9999	SONR392
FDNS	03ALL	1	13G	G12_027	FROM->TO	BENTON - WICHITA 345KV CKT 1	932	0.05558	9999	SPP-AEPW-D6
FDNS	01ALL	1	13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03954	102.3744	GRACEMONT - MINCO 345KV CKT 1 &GRACEMONT - SWEETWATER7 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03611	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL	1	13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03406	103.1034	DBLCCT10
FDNS	01ALL	1	13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03402	100.8511	ARCAD311
FDNS	01ALL	1	13G	G12_027	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03273	100.9758	NOWST382
FDNS	06ALL	1	13G	G12_027	FROM->TO	LAWEASOKLUNI	425	0.03007	119.3	BASE CASE
FDNS	0	1	13SP	G12_027	TO->FROM	FAIRFAX TAP - SHIDLER 138KV CKT 1	152	0.29936	100.8282	SONR184
FDNS	00G12_027	1	13SP	G12_027	TO->FROM	FAIRFAX TAP - SHIDLER 138KV CKT 1	152	0.29936	123.7436	SONR184
FDNS	01ALL	1	13G	G12_027	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.03792	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_027	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.03792	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	1	1	13G	G12_027	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.03591	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	1	1	13G	G12_027	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.03591	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	3	1	13G	G12_027	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.03199	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	3	1	13G	G12_027	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.03199	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_027	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.03099	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_027	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.03099	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FNSL-Blown up	03ALL	1	13G	G12_028		Non-converged Contingency	0	0.07694	-	THISTLE7 345.00 - WICHITA 345KV CKT 1 &THISTLE7 345.00 - WICHITA 345KV CKT 2
FNSL-Blown up	03ALL	1	13G	G12_028		Non-converged Contingency	0	0.05295	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_028		Non-converged Contingency	0	0.05295	-	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08092	123.7389	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07914	104.1758	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07044	101.3166	SUNSD314
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07034	102.1658	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07006	102.2733	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07006	102.0182	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07004	102.3204	SUNSD384
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06993	101.931	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06907	101.4406	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06594	100.9758	NOWST382
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06476	103.2122	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05971	104.3617	MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05917	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	07ALL	1	13G	G12_028	FROM->TO	Canadian Pump Station - JENSEN ROAD 138KV CKT 1	191	0.05492	102.8807	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1 &GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05005	100.8442	MSTNG186
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.0481	109.8812	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04553	100.8511	ARCAD311
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04515	103.1034	DBLCCT10
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04322	101.4924	PLVAL138KV
FDNS	07ALL	1	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.0412	104.733	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1 &AMARILLO SOUTH INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	1	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.0412	101.3573	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1 &AMARILLO SOUTH INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	1	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04116	105.9068	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1 &HARRINGTON STATION - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	1	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04116	102.4889	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1 &HARRINGTON STATION - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	1	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04115	105.953	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1 &Harrington Station Mid Bus - NICHOLS STATION 230KV CKT 2
FDNS	07ALL	1	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04115	102.5371	GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1 &Harrington Station Mid Bus - NICHOLS STATION 230KV CKT 2
FDNS	07ALL	1	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04109	106.3984	HUTCHINSON COUNTY INTERCHANGE - NICHOLS STATION 230KV CKT 1 &GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	07ALL	1	13G	G12_028	FROM->TO	GRAPEVINE INTERCHANGE (PENN 0257751) 230/115/13.2KV TRANSFORMER CKT 1	129	0.04109	102.7382	HUTCHINSON COUNTY INTERCHANGE - NICHOLS STATION 230KV CKT 1 &GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.04046	108.1609	DBLCCT37
FDNS	1	1	13G	G12_028	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.04015	101.2467	DBLCCT37
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0398	101.4424	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	07ALL	1	13G	G12_028	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.03949	100.7317	DBLCCT37
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.0382	105.3603	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03741	107.9746	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	3	1	13G	G12_028	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.037	103.1475	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	1	1	13G	G12_028	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03661	115.5669	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03579	129.1009	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	06ALL	1	13G	G12_028	FROM->TO	LAWEASOKLUNI	425	0.03461	119.3	BASE CASE
FDNS	00G12_028	1	18WP	G12_028	FROM->TO	LAWEASOKLUNI	425	0.03443	112	BASE CASE
FDNS	0	1	18WP	G12_028	FROM->TO	LAWEASOKLUNI	425	0.03439	112.4	BASE CASE
FDNS	6	1	13G	G12_028	FROM->TO	LAWEASOKLUNI	425	0.03393	103.3	BASE CASE
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.03304	104.2277	DBLCCT3
FDNS	01ALL	1	13G	G12_028	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.03304	100.8216	DBLCCT4
FDNS	07ALL	1	13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.10849	107.0162	CMARN384
FDNS	07ALL	1	13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.10849	107.0162	DBLCCT8
FDNS	07ALL	1	13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.10838	106.161	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 &GRACEMONT - MINCO 345KV CKT 1
FDNS	07ALL	1	13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.10834	105.8892	CMARN383

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	07ALL	1	13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.09981	106.2471	CIMARRONR
FDNS	07ALL	1	13G	G12_028	TO->FROM	SOUTHWESTERN STATION - WASHITA 138KV CKT 1	287	0.06892	102.755	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	07ALL	1	13G	G12_028	TO->FROM	WEATHERFORD JCT. - WEATHERFORD SOUTHEAST 138KV CKT 1	214	0.05492	101.9617	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1 &GRAPEVINE INTERCHANGE - NICHOLS STATION 230KV CKT 1
FDNS	01ALL	1	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04916	107.0481	BUS16
FDNS	01ALL	1	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04829	103.711	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G12-016 TAP 345.00 - THISTLE7 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.0481	104.7624	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04772	107.8209	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	01ALL	1	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.0477	100.1984	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04749	104.039	BASE CASE
FDNS	03ALL	1	13G	G12_028	TO->FROM	CANTON - TALOGA 69KV CKT 1	39	0.04749	106.9557	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04697	104.6281	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04667	102.4198	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04666	104.4548	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.04331	100.6478	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	01ALL	1	13G	G12_028	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.04046	102.9623	DBLCCT37
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03844	105.2165	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1 &SWISSVALE - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03806	100.5967	EMPORIA ENERGY CENTER - LANG 345KV CKT 1 &EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0376	104.1698	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - SUMMIT 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03687	105.5943	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G12-016 TAP 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03673	101.689	BKR-AXT-3308
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03672	101.5604	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - PAULINE 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03669	101.6526	AXTELL - POST ROCK 345KV CKT 1 &AXTELL - SWEETWATER 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03654	103.8295	KCPL-CROW#01
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03653	103.7136	SWISSVALE - WEST GARDNER 345KV CKT 1 &STILWELL - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03652	103.6006	KCPLCROW02-G
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03642	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03642	106.2158	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &BEAVER CO 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	110.9132	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	106.5838	MATTHEWSON 345.00 - TATONGA7 345.00 345KV CKT 2 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	106.4971	CRSRDSW7 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	106.4954	G07-21 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	106.4788	G11_024_1 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	106.4778	G08-19 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	106.2272	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	106.2164	G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	106.1494	G11_051T 345.00 - TATONGA7 345.00 345KV CKT 1 &G11_051T 345.00 - G11_051_1 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	105.1371	G11_020_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	105.1371	G11_019_1 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03632	103.4113	G07-62 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03593	99.9	WDRNG315-13
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03572	102.5019	SWISSVALE - WEST GARDNER 345KV CKT 1 &CRAIG - WEST GARDNER 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03519	116.9972	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FDNS	3	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03487	103.5036	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0348	105.0632	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &HOYT - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03468	101.8717	HOYT - STRANGER CREEK 345KV CKT 1 &IATAN - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03449	102.2378	HOYT - STRANGER CREEK 345KV CKT 1 &87th STREET - STRANGER CREEK 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.0344	102.2509	KCPLB-5
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03436	105.7551	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1 &JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03391	115.1894	EMPORIA ENERGY CENTER - WICHITA 345KV CKT 1 &VIOLA 7 345.00 - WICHITA 345KV CKT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03348	122.2898	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03348	103.3955	BASE CASE
FDNS	03ALL	1	13G	G12_028	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.03109	106.8369	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2 &G11_051T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_031		Non-converged Contingency	0	0.0374	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_031		Non-converged Contingency	0	0.0374	-	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.25607	123.7389	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01G12_031	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.25452	109.3493	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.25429	104.1758	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.21619	100.9758	NOWST382
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20888	102.3744	GRACEMONT - MINCO 345KV CKT 1 &GRACEMONT - SWEETWATER7 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20667	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.20315	104.3617	MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18783	103.2122	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18463	102.1658	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18449	103.1034	DBLCCT10
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18439	102.2733	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18439	102.0182	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18438	101.3166	SUNSD314
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18437	102.3204	SUNSD384
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18422	101.931	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18387	100.8511	ARCAD311
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1834	101.4406	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.18308	101.4424	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.1827	100.8442	MSTNG186
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.17757	101.4924	PLVAL138KV
FDNS	00G12_031	1	13SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.1216	106.0789	CMARN385
FDNS	00G12_031	1	13SP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.1216	103.9762	CMARN385
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.12092	119.4403	CMARN385
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.12092	116.9509	CMARN385
FDNS	01G12_031	1	13G	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.12043	114.6249	CMARN385
FDNS	01G12_031	1	13G	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.12043	112.0523	CMARN385
FDNS	1	1	13G	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.12035	111.3869	CMARN385
FDNS	1	1	13G	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.12035	108.7613	CMARN385
FDNS	03ALL	1	13G	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.1193	101.0945	CMARN385
FDNS	00G12_031	1	18WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11642	115.7091	CMARN385
FDNS	00G12_031	1	18WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11642	112.3934	CMARN385
FDNS	00G12_031	1	13WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11627	114.9277	CMARN385
FDNS	00G12_031	1	13WP	G12_031	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.11627	111.7756	CMARN385
FDNS	00G12_031	1	13SP	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.0848	111.4185	CIMARRONR

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08444	142.4793	CIMARRONR
FDNS	01G12_031	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08404	135.1995	CIMARRONR
FDNS	1	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08398	131.2256	CIMARRONR
FDNS	3	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08311	117.4929	CIMARRONR
FDNS	07ALL	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08311	107.9409	CIMARRONR
FDNS	7	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08305	105.3439	CIMARRONR
FDNS	08ALL	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.083	106.6014	CIMARRONR
FDNS	8	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08294	104.088	CIMARRONR
FDNS	9	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08289	100.6255	CIMARRONR
FDNS	09ALL	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08289	101.7597	CIMARRONR
FDNS	03ALL	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08288	125.9194	CIMARRONR
FDNS	6	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08277	101.8015	CIMARRONR
FDNS	06ALL	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08276	103.3354	CIMARRONR
FDNS	00G12_031	1	13WP	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	375	0.08127	102.7792	CIMARRONR
FDNS	00G12_031	1	18SP	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.08061	101.2678	CIMARRONR
FDNS	00G12_031	1	23SP	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.07892	104.2209	CIMARRONR
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.06947	109.8812	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.06077	105.3603	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05771	115.4663	NOWST382
FDNS	01ALL	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05771	113.8905	NOWST382
FDNS	01G12_031	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05717	109.9704	NOWST382
FDNS	01G12_031	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05717	108.162	NOWST382
FDNS	1	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05708	108.5021	NOWST382
FDNS	1	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05708	106.6839	NOWST382
FDNS	3	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0558	101.6277	NOWST382
FDNS	03ALL	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05559	107.7045	NOWST382
FDNS	03ALL	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05559	105.999	NOWST382
FDNS	01ALL	1	13G	G12_031	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.05529	115.3565	CIMARRONR
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.05511	104.2277	DBLCCT3
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.05511	100.8216	DBLCCT4
FDNS	01G12_031	1	13G	G12_031	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.05493	110.4363	CIMARRONR
FDNS	1	1	13G	G12_031	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.05488	107.8374	CIMARRONR
FDNS	00G12_031	1	13WP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.05437	100.4879	NOWST382
FDNS	3	1	13G	G12_031	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.05423	100.5291	CIMARRONR
FDNS	03ALL	1	13G	G12_031	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.05413	107.0509	CIMARRONR
FDNS	00G12_031	1	18WP	G12_031	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.05315	120.2068	CIMARRONR
FDNS	0	1	18WP	G12_031	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.05314	107.2516	CIMARRONR
FDNS	00G12_031	1	13WP	G12_031	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.05148	113.1878	CIMARRONR
FDNS	0	1	13WP	G12_031	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.05143	100.9234	CIMARRONR
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.04047	108.1609	DBLCCT37
FDNS	01G12_031	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.0402	103.1202	DBLCCT37
FDNS	1	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.04017	101.2467	DBLCCT37
FDNS	07ALL	1	13G	G12_031	FROM->TO	CIMARRON - HAYMAKER 138KV CKT 1	308	0.0395	100.7317	DBLCCT37
FDNS	00G12_031	1	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03778	104.9458	NOWST383
FDNS	00G12_031	1	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03778	102.8421	NOWST383
FDNS	0	1	13SP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03768	100.0678	NOWST383
FDNS	06ALL	1	13G	G12_031	FROM->TO	LAWEASOKLUNI	425	0.03693	119.3	BASE CASE
FDNS	01ALL	1	13G	G12_031	FROM->TO	CIMARRON - CZECH HALL 138KV CKT 1	382	0.03633	102.979	DVISN138PCBA
FDNS	6	1	13G	G12_031	FROM->TO	LAWEASOKLUNI	425	0.03625	103.3	BASE CASE
FDNS	01ALL	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0358	106.1792	NOWST383
FDNS	01ALL	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0358	104.6628	NOWST383
FDNS	01G12_031	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03559	102.618	NOWST383
FDNS	01G12_031	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03559	100.9405	NOWST383
FDNS	1	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03556	101.617	NOWST383
FDNS	1	1	13G	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03556	99.9	NOWST383
FDNS	00G12_031	1	13WP	G12_031	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03403	100.1679	NOWST383
FDNS	01ALL	1	13G	G12_031	FROM->TO	QUAIL CREEK - SKYLINE 138KV CKT 1	308	0.0328	108.1951	MSTNG186
FDNS	01G12_031	1	13G	G12_031	FROM->TO	QUAIL CREEK - SKYLINE 138KV CKT 1	308	0.03254	103.5016	MSTNG186
FDNS	1	1	13G	G12_031	FROM->TO	QUAIL CREEK - SKYLINE 138KV CKT 1	308	0.0325	102.1014	MSTNG186
FDNS	0	1	13WP	G12_031	FROM->TO	LAWEASOKLUNI	425	0.03182	114.6	BASE CASE
FDNS	03ALL	1	13G	G12_031	FROM->TO	QUAIL CREEK - SKYLINE 138KV CKT 1	308	0.03177	99.9	MSTNG186
FDNS	03ALL	1	13G	G12_031	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.0315	107.9746	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	00G12_031	1	13WP	G12_031	FROM->TO	LAWEASOKLUNI	425	0.03145	108.8	BASE CASE
FDNS	0	1	18WP	G12_031	FROM->TO	LAWEASOKLUNI	425	0.0312	112.4	BASE CASE
FDNS	3	1	13G	G12_031	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03109	103.1475	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	00G12_031	1	18WP	G12_031	FROM->TO	LAWEASOKLUNI	425	0.03086	105.4	BASE CASE
FDNS	1	1	13G	G12_031	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.0307	115.5669	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	01G12_031	1	13G	G12_031	FROM->TO	HUGO POWER PLANT - VALLIANT 138KV CKT 1	394	0.03058	117.8553	PITTSBURG - VALLIANT 345KV CKT 1 &HUGO - VALLIANT 345KV CKT 1
FDNS	00G12_031	1	13SP	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.0848	103.5636	CIMARRONR
FDNS	01ALL	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.08444	137.2249	CIMARRONR
FDNS	01G12_031	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.08404	129.9689	CIMARRONR
FDNS	1	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.08398	126.0007	CIMARRONR
FDNS	3	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.08311	112.2783	CIMARRONR
FDNS	07ALL	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.08311	102.7617	CIMARRONR
FDNS	7	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.08305	100.1591	CIMARRONR
FDNS	08ALL	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.083	101.39	CIMARRONR
FDNS	03ALL	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.08288	120.6873	CIMARRONR
FDNS	01ALL	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.06947	104.7624	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00G12_031	1	13SP	G12_031	TO->FROM	DIANA - WELSH 345KV CKT 1	1059	0.0411	99.9	DIANA - WELSH 345KV CKT 2 &WELSH - WILKES 345KV CKT 1
FDNS	01ALL	1	13G	G12_031	TO->FROM	DIVISION AVE - HAYMAKER 138KV CKT 1	308	0.04047	102.9623	DBLCCT37
FDNS	03ALL	1	13G	G12_032	FROM->TO	BENTON - WICHITA 345KV CKT 1	932	0.22355	-	SONR392
FDNS	03ALL	1	13G	G12_032	FROM->TO	BENTON - WICHITA 345KV CKT 1	932	0.20358	9999	SPP-AEPW-D6
FDNS	01ALL	1	13G	G12_032	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.08094	111.7559	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07487	100.9758	NOWST382
FDNS	03ALL	1	13G	G12_032	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.07298	104.2589	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07251	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06758	102.3744	GRACEMONT - MINCO 345KV CKT 1 &GRACEMONT - SWEETWATER7 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06256	103.1034	DBLCCT10
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06199	100.8511	ARCAD311

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05884	103.2122	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05709	102.1658	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05695	102.2733	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05695	102.0182	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05694	102.3204	SUNSD384
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0569	101.4424	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05682	101.931	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05682	101.3166	SUNSD314
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05633	101.4406	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05607	100.8442	MSTNG186
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05253	101.4924	PLVAL138KV
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04282	123.7389	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04104	104.1758	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0378	104.3617	MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03509	115.4663	NOWST382
FDNS	01ALL	1	13G	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03509	113.8905	NOWST382
FDNS	1	1	13G	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03446	108.5021	NOWST382
FDNS	1	1	13G	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03446	106.6839	NOWST382
FDNS	3	1	13G	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03318	101.6277	NOWST382
FDNS	03ALL	1	13G	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03297	107.7045	NOWST382
FDNS	03ALL	1	13G	G12_032	FROM->TO	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03297	105.999	NOWST382
FDNS	01ALL	1	13G	G12_032	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.08803	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_032	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.08803	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	1	1	13G	G12_032	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.08601	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	1	1	13G	G12_032	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.08601	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	3	1	13G	G12_032	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.0821	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	3	1	13G	G12_032	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.0821	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_032	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.0811	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_032	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.0811	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FNSL-Blown up	03ALL	1	13G	G12_033		Non-converged Contingency	0	0.03924	-	G11-17T 345.00 - SPEARVILLE 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FNSL-Blown up	03ALL	1	13G	G12_033		Non-converged Contingency	0	0.03924	-	G12-11T 345.00 - POST ROCK 345KV CKT 1 &G11-17T 345.00 - G12-11T 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.15096	111.7559	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_033	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.14301	104.2589	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08848	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08684	100.9758	NOWST382
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08295	102.3744	GRACEMONT - MINCO 345KV CKT 1 &GRACEMONT - SWEETWATER7 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0806	103.1034	DBLCCT10
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07906	100.8511	ARCAD311
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07521	103.2122	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07451	123.7389	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07343	102.1658	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07327	102.2733	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07327	102.0182	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07326	102.3204	SUNSD384
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0732	101.3166	SUNSD314
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07313	101.931	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	1	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07273	104.1758	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0725	101.4406	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07198	101.4424	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07002	100.8442	MSTNG186
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06757	101.4924	PLVAL138KV
FDNS	01ALL	1	13G	G12_033	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04361	104.3617	MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.14672	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_033	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.14672	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	1	1	13G	G12_033	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.14471	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	1	1	13G	G12_033	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.14471	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	3	1	13G	G12_033	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.14079	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	3	1	13G	G12_033	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.14079	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_033	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.13979	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_033	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.13979	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_033	TO->FROM	BENTON - WICHITA 345KV CKT 1	932	0.06422	99.9	WDRNG315-13
FNSL-Blown up	0	1	23SP	G12_034		Non-converged Contingency	0	0.08293	-	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FNSL-Blown up	00G12_034	1	23SP	G12_034		Non-converged Contingency	0	0.08293	-	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	137.8059	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	136.4717	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	127.2718	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	125.893	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	137.8197	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	136.488	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	127.2857	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	125.9098	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	147.0028	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	145.073	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	134.01	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	132.2817	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	147.0014	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	145.0715	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	134.0086	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	132.2802	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	147.7609	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	146.0299	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	135.4546	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	133.6525	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	147.7985	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	146.0704	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	135.4953	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13WP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	133.6955	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	138.9893	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	137.5676	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	0	1	18SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	128.2229	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	126.7402	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	138.9902	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	137.5689	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	128.2238	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	126.7415	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	156.4166	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	155.2819	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	144.0654	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	143.006	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	156.4166	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	155.282	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	144.0655	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	143.0061	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	127.9708	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	120.747	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	119.4144	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	112.1217	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18WP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	127.9707	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18WP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	120.747	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18WP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	119.4144	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18WP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	112.1217	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26287	134.0564	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26287	126.2195	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26287	125.3324	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26287	117.546	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13WP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26286	134.2131	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13WP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26286	126.3755	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13WP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26286	125.4927	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13WP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26286	117.706	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26271	160.4958	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	151.6058	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26271	151.2299	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	142.3293	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.2627	160.569	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	151.678	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.2627	151.3004	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	142.3997	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	168.7587	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	160.304	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	158.9394	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	150.5693	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	168.7569	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	160.3021	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	158.9374	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	150.5673	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	150.7414	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	143.3814	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	141.6266	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	134.2102	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	150.7404	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	143.3805	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	141.6257	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	134.2092	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	116.3246	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	110.5366	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	116.393	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	110.6048	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	125.1554	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	119.1162	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	125.1616	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	119.1223	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	115.9309	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	110.3192	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	115.9313	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	110.3196	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.9902	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.1027	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.9902	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.1026	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.17579	129.5814	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.17577	129.9499	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14183	103.0148	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14182	103.2577	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14176	105.809	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14175	106.0523	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1415	115.4065	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1415	108.1621	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1415	107.7147	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14149	115.6483	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14149	108.4057	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14149	107.9582	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14079	104.4469	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14077	104.6876	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13975	101.7983	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13973	102.046	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13924	107.3373	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13923	107.6169	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13905	105.7179	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13903	106.0155	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13817	105.8563	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13816	120.4947	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13816	110.6009	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13816	110.1715	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13815	106.1301	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13814	120.7735	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13814	110.8755	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13814	110.4458	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13731	105.8405	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1373	106.112	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13695	103.3899	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13694	103.6757	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13616	105.9041	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13615	106.1354	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.12032	101.6441	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.12031	101.8416	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11973	104.2445	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11972	104.4402	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11946	100	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11833	102.5678	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11832	102.7609	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11765	116.3555	BASE CASE
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11765	101.8567	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11765	101.513	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11764	116.6005	BASE CASE
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11764	102.049	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11764	101.6988	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11708	100.1373	G12-037 345.00 - TUCO INTERCHANGE 345KV CKT 1 &TUCO INTERCHANGE - TUCO2 345.00 345KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11707	100.3305	G12-037 345.00 - TUCO INTERCHANGE 345KV CKT 1 &TUCO INTERCHANGE - TUCO2 345.00 345KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11065	132.437	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11064	132.6371	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.10961	101.846	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.10959	102.0161	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.10655	126.3964	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.10654	126.5619	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0941	128.4237	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0941	124.4799	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0941	124.2381	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09409	128.5591	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09409	124.6174	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09409	124.3707	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0937	122.3698	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09369	122.4829	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09302	120.9464	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09301	121.0732	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08134	99.9	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08133	100	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2788	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2634	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05613	104.737	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05612	104.8185	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	123.4544	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	114.3147	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	123.4687	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	114.3273	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03641	115.5786	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03641	109.7891	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0364	115.6202	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0364	109.8276	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1	351	0.03617	108.7461	EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 &CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1	351	0.03617	108.7388	EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 &CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	131.9545	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	122.7616	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	131.9688	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	122.7742	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	111.3822	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	105.131	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	111.3959	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	105.1433	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	128.5956	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	118.8376	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	128.6091	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	118.8495	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	126.47	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	119.9412	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	126.5107	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	119.9785	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03371	110.2677	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03371	105.8035	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0337	110.3091	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0337	105.842	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03317	120.8084	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03317	114.5361	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03316	120.8487	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03316	114.5731	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_034	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.03012	119.9506	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.03012	120.0263	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	169	0.26287	103.939	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00G12_034	1	13WP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	169	0.26286	104.1014	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	121.7971	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	112.5666	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26271	116.8211	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26271	107.2236	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	121.867	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	112.6346	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.2627	116.8919	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.2627	107.2929	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	130.2363	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	120.739	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	TO->FROM	ARCO WILLARD TAP - Bennett Sub 115KV CKT 1	160	0.26261	106.2664	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	125.4075	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	115.7254	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	130.2341	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	120.7367	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	TO->FROM	ARCO WILLARD TAP - Bennett Sub 115KV CKT 1	160	0.26261	106.2639	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	125.4051	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	115.7228	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	113.6387	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	104.3782	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.25415	108.3971	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	113.6378	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	104.3773	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	23SP	G12_034	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.25415	108.3961	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.0738	127.0507	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.07379	127.1814	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	18SP	G12_034	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2876	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2655	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_034	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05613	104.5704	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05612	104.6584	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05195	101.2553	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1
FDNS	00G12_034	1	18SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05194	101.3687	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04965	110.4563	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION EAST 230KV CKT 2
FDNS	00G12_034	1	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04965	110.5346	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION EAST 230KV CKT 2
FDNS	0	1	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04942	110.441	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION WEST 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04941	110.5144	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION WEST 230KV CKT 1
FDNS	0	1	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04775	112.2691	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1
FDNS	00G12_034	1	13SP	G12_034	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04774	112.3521	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1
FNSL-Blown up	0	1	23SP	G12_035		Non-converged Contingency	0	0.08293	-	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FNSL-Blown up	00G12_035	1	23SP	G12_035		Non-converged Contingency	0	0.08293	-	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	137.8059	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	136.4717	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	127.2718	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	125.893	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	137.8197	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	136.488	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	127.2857	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	125.9098	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	147.0028	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	145.073	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	134.01	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	132.2817	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	147.0014	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	145.0715	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	134.0086	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	132.2802	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	147.7609	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	146.0299	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	135.4546	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	133.6525	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	147.7985	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	146.0704	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	135.4953	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13WP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	133.6955	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	138.9893	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	137.5676	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	128.2229	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	126.7402	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	138.9902	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	137.5689	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	128.2238	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	126.7415	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	156.4166	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	155.2819	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	144.0654	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	143.006	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	156.4166	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	155.282	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	144.0655	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	143.0061	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	127.9708	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	120.747	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	119.4144	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	112.1217	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18WP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	127.9707	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18WP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	120.747	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18WP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	119.4144	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18WP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	112.1217	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	0	1	13WP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26287	134.0564	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26287	126.2195	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26287	125.3324	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26287	117.546	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13WP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26286	134.2131	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13WP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26286	126.3755	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13WP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26286	125.4927	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13WP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26286	117.706	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26271	160.4958	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	151.6058	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26271	151.2299	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	142.3293	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.2627	160.569	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	151.678	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.2627	151.3004	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	142.3997	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	168.7587	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	160.304	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	158.9394	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	150.5693	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	168.7569	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	160.3021	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	158.9374	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	150.5673	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	150.7414	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	143.3814	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	141.6266	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	134.2102	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	150.7404	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	143.3805	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	141.6257	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	134.2092	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	116.3246	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	110.5366	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	116.393	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	110.6048	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	125.1554	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	119.1162	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	125.1616	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	119.1223	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	115.9309	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	110.3192	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	115.9313	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	110.3196	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.9902	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.1027	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.9902	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.1026	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.17579	129.5814	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.17577	129.9499	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14183	103.0148	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14182	103.2577	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14176	105.809	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14175	106.0523	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1415	115.4065	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1415	108.1621	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1415	107.7147	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14149	115.6483	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14149	108.4057	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14149	107.9582	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14079	104.4469	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14077	104.6876	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13975	101.7983	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13973	102.046	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13924	107.3373	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13923	107.6169	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13905	105.7179	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13903	106.0155	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13817	105.8563	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13816	120.4947	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13816	110.6009	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13816	110.1715	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13815	106.1301	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13814	120.7735	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13814	110.8755	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13814	110.4458	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13731	105.8405	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1373	106.112	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13695	103.3899	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13694	103.6757	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13616	105.9041	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13615	106.1354	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.12032	101.6441	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.12031	101.8416	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11973	104.2445	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11972	104.4402	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11946	100	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11833	102.5678	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11832	102.7609	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11765	116.3555	BASE CASE
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11765	101.8567	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11765	101.513	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11764	116.6005	BASE CASE
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11764	102.049	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11764	101.6988	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11708	100.1373	G12-037 345.00 - TUCO INTERCHANGE 345KV CKT 1 &TUCO INTERCHANGE - TUCO2 345.00 345KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11707	100.3305	G12-037 345.00 - TUCO INTERCHANGE 345KV CKT 1 &TUCO INTERCHANGE - TUCO2 345.00 345KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11065	132.437	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11064	132.6371	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.10961	101.846	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	PLANT X STATION (WH_ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.10959	102.0161	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.10655	126.3964	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.10654	126.5619	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0941	128.4237	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0941	124.4799	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0941	124.2381	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09409	128.5591	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09409	124.6174	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09409	124.3707	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0937	122.3698	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09369	122.4829	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09302	120.9464	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09301	121.0732	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08134	99.9	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08133	100	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2788	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2634	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05613	104.737	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05612	104.8185	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	123.4544	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	114.3147	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	123.4687	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	114.3273	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03641	115.5786	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03641	109.7891	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0364	115.6202	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0364	109.8276	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1	351	0.03617	108.7461	EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 &CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1	351	0.03617	108.7388	EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 &CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	131.9545	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	122.7616	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	131.9688	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	122.7742	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	111.3822	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	105.131	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	111.3959	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	105.1433	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	128.5956	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	118.8376	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	128.6091	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	118.8495	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	126.47	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	119.9412	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	126.5107	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	119.9785	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03371	110.2677	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03371	105.8035	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0337	110.3091	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0337	105.842	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03317	120.8084	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03317	114.5361	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03316	120.8487	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03316	114.5731	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_035	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.03012	119.9506	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.03012	120.0263	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	169	0.26287	103.939	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13WP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	169	0.26286	104.1014	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	121.7971	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	112.5666	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26271	116.8211	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26271	107.2236	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	121.867	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	112.6346	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.2627	116.8919	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.2627	107.2929	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	130.2363	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	120.739	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	TO->FROM	ARCO WILLARD TAP - Bennett Sub 115KV CKT 1	160	0.26261	106.2664	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	125.4075	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	115.7254	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	130.2341	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	120.7367	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	TO->FROM	ARCO WILLARD TAP - Bennett Sub 115KV CKT 1	160	0.26261	106.2639	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	125.4051	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	115.7228	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	113.6387	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	104.3782	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.25415	108.3971	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00G12_035	1	23SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	113.6378	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	104.3773	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	23SP	G12_035	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.25415	108.3961	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.0738	127.0507	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.07379	127.1814	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	18SP	G12_035	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2876	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2655	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_035	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05613	104.5704	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05612	104.6584	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05195	101.2553	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1
FDNS	00G12_035	1	18SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05194	101.3687	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04965	110.4563	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION EAST 230KV CKT 2
FDNS	00G12_035	1	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04965	110.5346	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION EAST 230KV CKT 2
FDNS	0	1	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04942	110.441	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION WEST 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04941	110.5144	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION WEST 230KV CKT 1
FDNS	0	1	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04775	112.2691	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1
FDNS	00G12_035	1	13SP	G12_035	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04774	112.3521	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1
FNSL-Blown up	0	1	23SP	G12_036		Non-converged Contingency	0	0.08293	-	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FNSL-Blown up	00G12_036	1	23SP	G12_036		Non-converged Contingency	0	0.08293	-	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	137.8059	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	136.4717	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	127.2718	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	125.893	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	137.8197	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	136.488	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	127.2857	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64324	125.9098	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	147.0028	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	145.073	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	134.01	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	132.2817	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	147.0014	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	145.0715	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	134.0086	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.64314	132.2802	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	147.7609	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	146.0299	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	135.4546	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	133.6525	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	147.7985	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	146.0704	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	135.4953	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13WP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.6431	133.6955	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	138.9893	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	137.5676	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	128.2229	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	126.7402	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	138.9902	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	137.5689	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	128.2238	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	288	0.64298	126.7415	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	156.4166	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	155.2819	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	144.0654	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	143.006	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	156.4166	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	155.282	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	144.0655	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	MUSTANG STATION (ENRCO 136161) 230/115/13.2KV TRANSFORMER CKT 1	250	0.63881	143.0061	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	127.9708	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	120.747	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	119.4144	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18WP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	112.1217	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18WP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	127.9707	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18WP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	120.747	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18WP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26315	119.4144	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18WP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26315	112.1217	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26287	134.0564	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26287	126.2195	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26287	125.3324	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26287	117.546	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13WP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26286	134.2131	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13WP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26286	126.3755	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13WP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	177	0.26286	125.4927	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13WP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	177	0.26286	117.706	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26271	160.4958	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	151.6058	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26271	151.2299	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	142.3293	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.2627	160.569	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	151.678	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.2627	151.3004	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	142.3997	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	168.7587	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	160.304	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	158.9394	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	150.5693	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	168.7569	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	160.3021	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.26261	158.9374	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	150.5673	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	150.7414	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	143.3814	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	141.6266	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	134.2102	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	150.7404	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	143.3805	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	DENVER CITY INTERCHANGE N. - EL PASO SUB 115KV CKT 1	160	0.25415	141.6257	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	EL PASO SUB - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	134.2092	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	116.3246	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	110.5366	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	116.393	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19263	110.6048	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	125.1554	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	119.1162	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	125.1616	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.19232	119.1223	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	115.9309	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	110.3192	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	115.9313	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	MUSTANG STATION N. - SEAGRAVES INTERCHANGE 115KV CKT 1	160	0.18317	110.3196	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.9902	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.1027	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.9902	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	FROM->TO	SEMINOLE (GE M101898) 230/115/13.2KV TRANSFORMER CKT 2	150	0.18295	100.1026	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.17579	129.5814	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.17577	129.9499	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14183	103.0148	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14182	103.2577	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - LUBBOCK SOUTH INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14176	105.809	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14175	106.0523	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1415	115.4065	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1415	108.1621	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1415	107.7147	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14149	115.6483	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14149	108.4057	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14149	107.9582	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14079	104.4469	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.14077	104.6876	JONES STATION - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13975	101.7983	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13973	102.046	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13924	107.3373	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13923	107.6169	PLANT X STATION - TOLK STATION EAST 230KV CKT 2 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13905	105.7179	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13903	106.0155	TOLK STATION EAST - TOLK STATION TAP 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13817	105.8563	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13816	120.4947	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13816	110.6009	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13816	110.1715	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13815	106.1301	Roosevelt County Interchange SOUTH - TOLK STATION EAST 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13814	120.7735	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13814	110.8755	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13814	110.4458	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13731	105.8405	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.1373	106.112	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13695	103.3899	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13694	103.6757	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13616	105.9041	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.13615	106.1354	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.12032	101.6441	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.12031	101.8416	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11973	104.2445	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11972	104.4402	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11946	100	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11833	102.5678	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11832	102.7609	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &GRASSLAND INTERCHANGE - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11765	116.3555	BASE CASE
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11765	101.8567	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11765	101.513	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11764	116.6005	BASE CASE
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11764	102.049	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11764	101.6988	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11708	100.1373	G12-037 345.00 - TUCO INTERCHANGE 345KV CKT 1 &TUCO INTERCHANGE - TUCO2 345.00 345KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11707	100.3305	G12-037 345.00 - TUCO INTERCHANGE 345KV CKT 1 &TUCO INTERCHANGE - TUCO2 345.00 345KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11065	132.437	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.11064	132.6371	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.10961	101.846	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	PLANT X STATION (WH ALM20171) 230/115/13.2KV TRANSFORMER CKT 1	252	0.10959	102.0161	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.10655	126.3964	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.10654	126.5619	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0941	128.4237	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0941	124.4799	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0941	124.2381	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09409	128.5591	ANTELOPE 1 - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09409	124.6174	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G10-46 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09409	124.3707	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &G12-020 230.00 - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.0937	122.3698	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09369	122.4829	CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &TUCO INTERCHANGE - TUCO2 230.00 230KV CKT 1

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	0	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09302	120.9464	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	WOLFFORTH INTERCHANGE - YUMA INTERCHANGE 115KV CKT 1	154	0.09301	121.0732	SWISHER COUNTY INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1 &CARLISLE INTERCHANGE - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08134	99.9	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1 &JONES STATION - TUCO INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.08133	100	TOLK STATION EAST - TUCO INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2788	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2634	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05613	104.737	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	CUNNINGHAM STATION - SW3H64_V21 3115.00 115KV CKT 1	160	0.05612	104.8185	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	123.4544	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	114.3147	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	123.4687	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03644	114.3273	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03641	115.5786	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03641	109.7891	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0364	115.6202	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0364	109.8276	Jones Station Bus#2 - LUBBOCK SOUTH INTERCHANGE 230KV CKT 2 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1	351	0.03617	108.7461	EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 &CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1	351	0.03617	108.7388	EDDY COUNTY INTERCHANGE - EDDY_NORTH 6230.00 230KV CKT 1 &CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	131.9545	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	122.7616	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	131.9688	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03518	122.7742	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	111.3822	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	105.131	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	111.3959	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03501	105.1433	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	128.5956	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	118.8376	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	128.6091	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03444	118.8495	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	126.47	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	119.9412	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	126.5107	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03401	119.9785	Jones Station Bus#2 - LUBBOCK POWER & LIGHT-HOLLY PLANT 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03371	110.2677	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03371	105.8035	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0337	110.3091	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.0337	105.842	LUBBOCK EAST INTERCHANGE - LUBBOCK POWER & LIGHT-WADSWORTH 230KV CKT 1 &Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03317	120.8084	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03317	114.5361	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03316	120.8487	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	LUBBOCK SOUTH INTERCHANGE (ABB LLM60043) 230/115/13.2KV TRANSFORMER CKT 1	252	0.03316	114.5731	Jones Station Bus#2 - LUBBOCK EAST INTERCHANGE 230KV CKT 1 &JONES STATION - Jones Station Bus#2 230KV CKT 1
FDNS	0	1	13SP	G12_036	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.03012	119.9506	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	FROM->TO	CURRY COUNTY INTERCHANGE - DEAF SMITH REC-#20 115KV CKT 1	96	0.03012	120.0263	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &BUFFALO 230.00 - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13WP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	169	0.26287	103.939	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13WP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	169	0.26286	104.1014	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	121.7971	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26271	112.5666	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26271	116.8211	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26271	107.2236	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	121.867	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.2627	112.6346	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.2627	116.8919	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.2627	107.2929	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	130.2363	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	120.739	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	TO->FROM	ARCO WILLARD TAP - Bennett Sub 115KV CKT 1	160	0.26261	106.2664	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	125.4075	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	115.7254	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	130.2341	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.26261	120.7367	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	TO->FROM	ARCO WILLARD TAP - Bennett Sub 115KV CKT 1	160	0.26261	106.2639	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	125.4051	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.26261	115.7228	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	113.6387	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	104.3782	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	23SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.25415	108.3971	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	113.6378	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	TO->FROM	ODC TAP - SHELL CO2 GAS SUB 115KV CKT 1	160	0.25415	104.3773	OXYBRU_TP 6230.00 - YOAKUM COUNTY INTERCHANGE 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	23SP	G12_036	TO->FROM	Bennett Sub - ODC TAP 115KV CKT 1	154	0.25415	108.3961	AMOCO WASSON SWITCHING STATION - MUSTANG STATION 230KV CKT 1 &MUSTANG STATION - YOAKUM COUNTY INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.0738	127.0507	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.07379	127.1814	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	0	1	18SP	G12_036	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2876	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05658	132.2655	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_036	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05613	104.5704	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	TO->FROM	PCA INTERCHANGE - SW3H64_V21 3115.00 115KV CKT 1	160	0.05612	104.6584	CUNNINGHAM STATION - EDDY COUNTY INTERCHANGE 230KV CKT 1 &CUNNINGHAM STATION - POTASH JUNCTION INTERCHANGE 230KV CKT 1
FDNS	0	1	18SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05195	101.2553	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1
FDNS	00G12_036	1	18SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.05194	101.3687	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &NEWHART 230 - PLANT X STATION 230KV CKT 1
FDNS	0	1	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04965	110.4563	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION EAST 230KV CKT 2
FDNS	00G12_036	1	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04965	110.5346	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION EAST 230KV CKT 2
FDNS	0	1	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04942	110.441	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION WEST 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04941	110.5144	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - TOLK STATION WEST 230KV CKT 1
FDNS	0	1	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04775	112.2691	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1
FDNS	00G12_036	1	13SP	G12_036	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.04774	112.3521	DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1 &PLANT X STATION - SUNDOWN INTERCHANGE 230KV CKT 1
FDNS	0	1	13SP	G12_037	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03429	127.0507	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	00G12_037	1	13SP	G12_037	TO->FROM	BAILEY COUNTY REC-EARTH INTERCHANGE - PLANT X STATION 115KV CKT 1	160	0.03429	127.1814	PLANT X STATION - POTTER COUNTY INTERCHANGE 230KV CKT 1 &DEAF SMITH COUNTY INTERCHANGE - PLANT X STATION 230KV CKT 1
FDNS	03ALL	1	13G	G12_040	FROM->TO	BENTON - WICHITA 345KV CKT 1	932	0.11371	9999	SONR392
FDNS	00NR	1	13SP	G12_040	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.10545	100.2481	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_040	FROM->TO	BENTON - WICHITA 345KV CKT 1	932	0.10524	9999	SPP-AEPW-D6

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	00NR	1	13WP	G12_040	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.10202	116.7675	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	00NR	1	18WP	G12_040	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.09945	118.2396	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	00NR	1	23SP	G12_040	FROM->TO	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1	1195	0.0857	103.888	CIMARRON - MATHWSN7 345.00 345KV CKT 1 &CIMARRON - MATHWSN7 345.00 345KV CKT 2
FDNS	01ALL	1	13G	G12_040	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.08513	111.7559	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08495	106.0122	ARCADIA - SEMINOLE 345KV CKT 1 &MUSKOGEE - SEMINOLE 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.08233	104.0809	ARCADIA - SEMINOLE 345KV CKT 1 &MUSKOGEE - SEMINOLE 345KV CKT 1
FDNS	03ALL	1	13G	G12_040	FROM->TO	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1	1195	0.07717	104.2589	CIMARRON - MATTHEWSON 345.00 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	00NR	1	13WP	G12_040	FROM->TO	GRACEMONT (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.07686	100.5391	CIMARRONR
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0731	105.321	DBLCCT10
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0717	102.6655	ARCAD311
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07159	101.3996	ARCADIA - REDBUD 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07159	101.3849	ARCADIA - REDBUD 345KV CKT 2 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.07085	103.1505	DBLCCT10
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06988	103.8907	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06978	100.334	ARCAD311
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06964	100.1662	ARCADIA - SEMINOLE 345KV CKT 1 &DRAPER LAKE - SEMINOLE 345KV CKT 3
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06797	100.22	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06674	100.9758	NOWST382
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06669	101.9957	ARCADIA - NORTHWEST 345KV CKT 1 &ARCADIA - SEMINOLE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0659	105.6419	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0641	103.5489	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0636	101.5318	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06338	102.3744	GRACEMONT - MINCO 345KV CKT 1 &GRACEMONT - SWEETWATER7 345.00 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06205	101.7959	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06162	103.839	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06162	103.724	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06159	103.8592	SUNSD384
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06153	102.9733	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06101	103.7146	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.06047	103.2488	SUNSD314
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05991	102.5663	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05991	102.4497	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05988	102.5852	SUNSD384
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05985	101.8457	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05969	102.8861	NOWST382
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05926	102.3999	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05918	103.5488	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05914	103.1034	DBLCCT10
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05872	101.9206	SUNSD314
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05855	100.8511	ARCAD311
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05751	100.719	ARCADIA - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.0574	102.0988	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05521	103.4799	DBLCCT37
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05503	103.2122	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05467	103.4257	DBLCCT37
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05466	103.2337	MSTNG186
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05332	102.1658	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05317	102.2733	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &ORIGINW7 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05317	102.0182	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &G08-46 345.00 - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05316	102.3204	SUNSD384
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05305	101.3166	SUNSD314
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05304	101.931	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &JOHNSON COUNTY - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.053	101.4424	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1 &GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05253	101.4406	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1 &HUGO - SUNNYSIDE 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.05178	100.8442	MSTNG186
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04869	101.4924	PLVAL138KV
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04303	123.7389	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	1	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.04125	104.1758	CIMARRON - NORTHWEST 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00NR	1	13SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0398	122.7058	CMARN385
FDNS	00NR	1	13SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0398	120.1703	CMARN385
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03893	126.8447	CMARN385
FDNS	00NR	1	13WP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03893	122.9833	CMARN385
FDNS	00NR	1	18SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03838	114.2408	CMARN385
FDNS	00NR	1	18SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03838	111.9861	CMARN385
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03802	127.3229	CMARN385
FDNS	00NR	1	18WP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.03802	123.4169	CMARN385
FDNS	00NR	1	23SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0371	119.0884	CMARN385
FDNS	00NR	1	23SP	G12_040	FROM->TO	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1	493	0.0371	116.3725	CMARN385
FDNS	01ALL	1	13G	G12_040	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	0.03438	104.3617	MATTHEWSON 345.00 - WOODRING 345KV CKT 1 &MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	FROM->TO	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03297	9999	SONR38
FDNS	00NR	1	18WP	G12_040	FROM->TO	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03229	9999	SONR181
FDNS	00NR	1	13WP	G12_040	FROM->TO	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03225	9999	SONR181
FDNS	00NR	1	13SP	G12_040	FROM->TO	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	124	0.03174	9999	SONR181
FDNS	00NR	1	18SP	G12_040	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.03139	100.1045	CIMARRONR
FDNS	00NR	1	18WP	G12_040	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.03113	139.347	CIMARRONR
FDNS	00NR	1	13WP	G12_040	FROM->TO	DIVISION AVE - MUSTANG 138KV CKT 1	287	0.03101	133.4585	CIMARRONR
FDNS	00NR	1	13SP	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.12481	115.1713	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	00NR	1	13SP	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.12481	115.1713	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	00NR	1	13WP	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.12099	131.966	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	00NR	1	13WP	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.12099	131.9659	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	00NR	1	18SP	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.11973	109.6956	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	00NR	1	18SP	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.11973	109.6956	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	00NR	1	18WP	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.11815	132.4355	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	00NR	1	18WP	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.11815	132.4355	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	00NR	1	23SP	G12_040	TO->FROM	CIMARRON - MATHWSN7 345.00 345KV CKT 1	956	0.11041	118.856	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATHWSN7 345.00 345KV CKT 2
FDNS	01ALL	1	13G	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.08965	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	01ALL	1	13G	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.08965	122.2847	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	1	1	13G	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.08763	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	1	1	13G	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.08763	107.8795	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2

SOLUTION	GROUP	SCENARIO	SEASON	SOURCE	DIRECTION	MONITORED ELEMENT	RATEB (MVA)	TDF	TC%LOADING (% MVA)	CONTINGENCY
FDNS	3	1	13G	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.08372	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	3	1	13G	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.08372	105.1259	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2
FDNS	03ALL	1	13G	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 2	956	0.08272	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 1
FDNS	03ALL	1	13G	G12_040	TO->FROM	CIMARRON - MATTHEWSON 345.00 345KV CKT 1	956	0.08272	120.5301	MATTHEWSON 345.00 - NORTHWEST 345KV CKT 1 &CIMARRON - MATTHEWSON 345.00 345KV CKT 2

J: Group 3 Dynamic Stability Analysis Report

See Mitsubishi report on next page.

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Southwest Power Pool, Inc. (SPP)

DISIS-2012-002-1 (Group 3) Definitive Impact Study

Final Report

PXE-0682
Revision #01

May 2013

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

Title: **DISIS-2012-002-1 (Group 3) Definitive Impact Study: Final Report for PXE-0682**
Date: May 2013
Author: Nicholas W. Tenza; Engineer I, Power Systems Engineering Dept. *Nicholas W. Tenza*
Reviewed: Elizabeth M. Cook; Sr. Engineer, Power Systems Engineering Dept. *Elizabeth M. Cook*

EXECUTIVE SUMMARY

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

Table ES-1
Interconnection Projects Evaluated

Request	Size (MW)	Turbine Model	Point of Interconnection (POI)
GEN-2012-024	180	Vestas V112-3.0MW	Clark County 345kV (539800)

SUMMARY OF STABILITY ANALYSIS

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

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

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

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

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

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

Contingency #53 and #54 are a 3 phase and 1 phase fault, respectively, on the Woodward to G11-051-Tap 345 kV line. After discussion with SPP, it was determined that adding a 250 Mvar capacitor bank at the Reno 345 kV substation and a 15 Mvar capacitor bank at the Milan 138 kV substation would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of this mitigation, system stability and acceptable voltages were achieved.

SUMMARY OF POWER FACTOR ANALYSIS

The Power Factor Analysis shows that GEN-2012-024 has a power factor range of 0.8301 lagging (supplying) to 0.9711 lagging (supplying).

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SECTION 1: OBJECTIVES

The objective of this report is to provide Southwest Power Pool, Inc. (SPP) with the deliverables for the "GEN-2012-002-1 (Group 3) Definitive Impact Study." SPP requested an Interconnection System Impact Study for GEN-2012-024, which requires a Power Factor Analysis, a Stability Analysis, and an Impact Study Report.

SECTION 2: BACKGROUND

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

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

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

Table 2-1
Interconnection Project Evaluated

Request	Size (MW)	Turbine Model	Point of Interconnection (POI)
GEN-2012-024	180	Vestas V112-3.0MW	Clark County 345kV (539800)

Table 2-2
Previously Queued Nearby Interconnection Projects Included

Request	Size (MW)	Turbine Model	Point of Interconnection (POI)
GEN-2001-039A	104	GE 1.6MW	Shooting Star 115kV (539763)
GEN-2002-025A	150	GE 1.5 MW	Spearville 230kV (539695)
GEN-2004-014	154.5	GE 1.5 MW	Spearville 230kV (539695)
GEN-2005-012	250.7	Siemens 2.3MW	Spearville 345kV (531469)
GEN-2006-006	205.5	GE 1.5 MW	Spearville 345kV (531469)
GEN-2006-021	100	Clipper 2.5MW	Flat Ridge 138kV (539638)
GEN-2006-022	150	Clipper 2.5MW	Pratt 115kV (539687)
GEN-2007-038	200	Clipper 2.5MW	Spearville 345kV (531469)
GEN-2007-040	200.1	Siemens 2.3MW	Buckner 345kV (531501)
GEN-2008-018	405	GE 1.5 MW	Finney 345kV (523853)
GEN-2008-079	98.9	Siemens 2.3MW	Tap on Cudahy – Fort Dodge 115kV line (560229)
GEN-2008-124	200.1	Siemens 2.3MW	Spearville 345kV (531469)
GEN-2010-009	165.6	Siemens 2.3MW	Buckner 345kV (531501)
GEN-2010-015	200.1	Siemens 2.3MW	Spearville 345kV (531469)
GEN-2010-029	450	Vestas V90 1.8MW	Spearville 345kV (531469)
GEN-2010-045	197.8	Siemens 2.3MW	Buckner 345kV (531501)
GEN-2010-061	179.4	Siemens 2.3MW	Tap on Spearville – Post Rock 345kV line (G11-017 POI, 560242)
GEN-2011-008	600	GE 1.6MW	Clark County 345kV (539800)
GEN-2011-016	200.1	Siemens 2.3MW	Spearville 345kV (531469)
GEN-2011-017	299	Siemens 2.3MW	Tap on Spearville – Post Rock 345kV line (G11-017 POI, 560242)
GEN-2011-023	299	Siemens 2.3MW	Clark County 345kV (539800)

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

Request	Size (MW)	Turbine Model	Point of Interconnection (POI)
GEN-2011-043	149.5	Siemens 2.3MW	Thistle 345kV (539801)
GEN-2011-044	149.5	Siemens 2.3MW	Thistle 345kV (539801)
GEN-2012-007	96/120	GENSAL	Tap on Rubart 115kV (562116)
GEN-2012-011	200	GE 1.6MW	Tap on Spearville – Post Rock 345kV line (G12-011POI, 562334)
ASGI-2012-006	20.74/21.21	GENSAL	Tap on Rolla – Hugoton 69kV (562114)

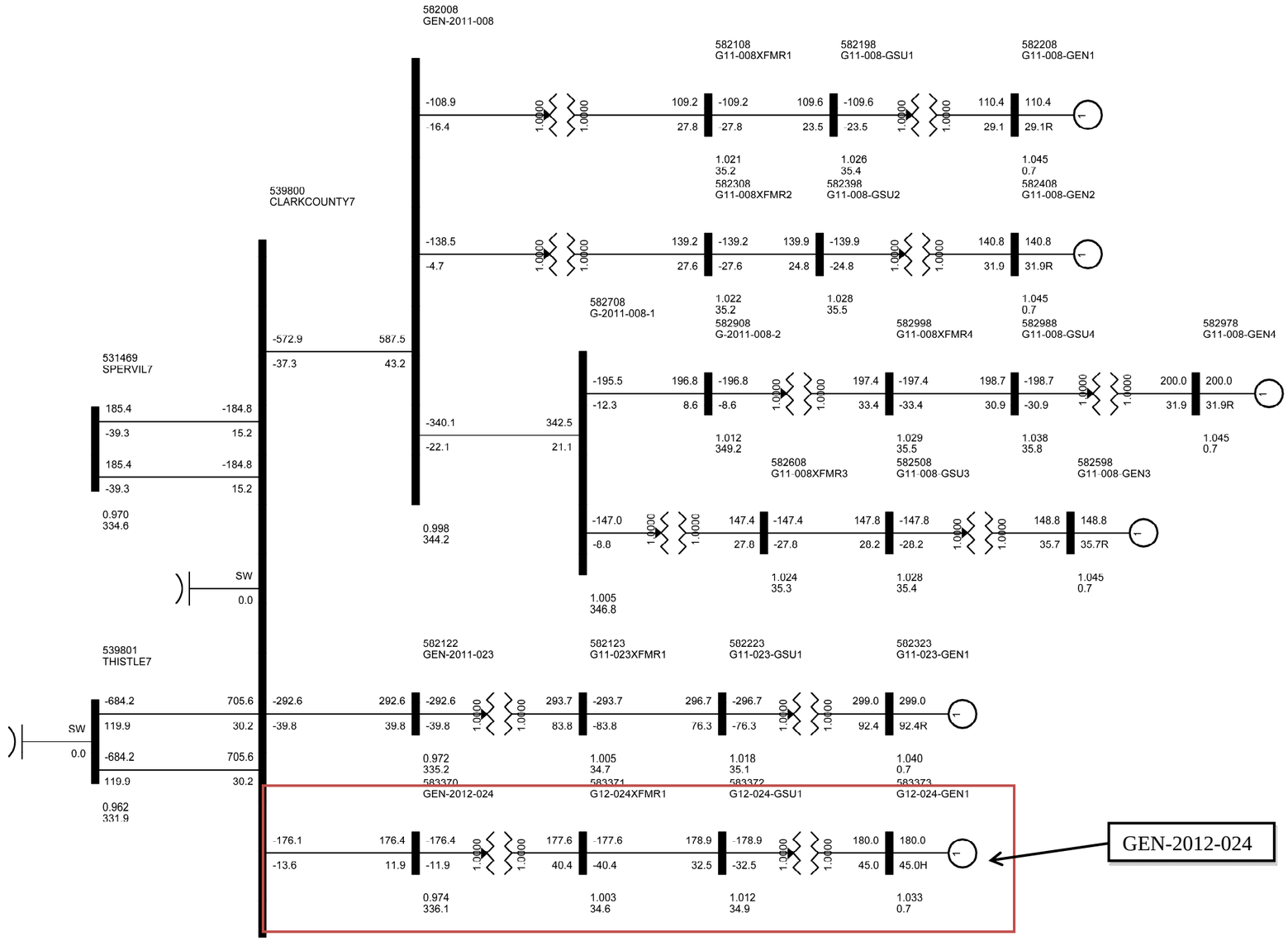

Figure 2-1. Power flow one-line diagram for interconnection project GEN-2012-024 (180 MW).

Table 2-3
Case List with Contingency Description

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

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

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

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

Ref. No.	Case Name	Description
31	FLT31-3PH	3 phase fault on the Spearville (531469) 345kV to Spearville (539695) 230kV/(531468) 13.8 transformer near the 230kV bus. a. Apply fault at the Spearville 230kV bus. b. Clear fault after 5 cycles and trip the faulted transformer.
32	FLT32-3PH	3 phase fault on Holcomb (531448) to Jones (531379) 115kV line, ckt1, near Holcomb. a. Apply fault at the Holcomb 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
33	FLT33-1PH	*Single phase fault and sequence like previous*
34	FLT34-3PH	3 phase fault on Holcomb (531448) to Garden City (531445) 115kV line, ckt1, near Holcomb. a. Apply fault at the Holcomb 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
35	FLT35-1PH	*Single phase fault and sequence like previous*
36	FLT36-3PH	3 phase fault on N. Ft. Dodge (539771) to Ft. Dodge (539671) 115kV line, ckt1, near N. Ft. Dodge. a. Apply fault at the N. Ft. Dodge 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
37	FLT37-1PH	*Single phase fault and sequence like previous*
38	FLT38-3PH	3 phase fault on the Holcomb (531449) 345kV to Holcomb (531448) 115kV/(531450) 13.8kV transformer near the 115kV bus. a. Apply fault at the Holcomb 115kVbus. b. Clear fault after 5 cycles and trip the faulted transformer.
39	FLT39-3PH	3 phase fault on the N. Ft. Dodge (539771) to Spearville (539694) 115kV line, ckt1, near N. Ft. Dodge. a. Apply fault at the N. Ft. Dodge 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
40	FLT40-1PH	*Single phase fault and sequence like previous*
41	FLT41-3PH	3 phase fault on Ft. Dodge (539671) to G08-079-Tap (560229) 115kV line, ckt1, near Ft. Dodge. a. Apply fault at the Ft. Dodge 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
42	FLT42-1PH	*Single phase fault and sequence like previous*
43	FLT43-3PH	3 phase fault on the N. Ft. Dodge (539771) to SStarTP (539763) 115kV line, ckt1, near N. Ft. Dodge. a. Apply fault at the N. Ft. Dodge 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
44	FLT44-1PH	*Single phase fault and sequence like previous*
45	FLT45-3PH	3 phase fault on the Kismet (539646) to Cudahy (539659) 115kV line, ckt1, near Kismet. a. Apply fault at the Kismet 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
46	FLT46-1PH	*Single phase fault and sequence like previous*
47	FLT47-3PH	***DELETED***

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

Ref. No.	Case Name	Description
48	FLT48-1PH	***DELETED***
49	FLT49-3PH	***DELETED***
50	FLT50-1PH	***DELETED***
51	FLT51-3PH	3 phase fault on the Woodward (515375) to Border (523775) 345kV line, ckt1, near Woodward. a. Apply fault at the Woodward 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
52	FLT52-1PH	*Single phase fault and sequence like previous*
53	FLT53-3PH	3 phase fault on the Woodward (515375) to G11-051-TAP (562075) 345kV line, ckt1, near Woodward. a. Apply fault at the Woodward 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
54	FLT54-1PH	*Single phase fault and sequence like previous*
55	FLT55-3PH	3 phase fault on the Woodward (515375) to G12-016-TAP (562286) 345kV line, ckt1, near Woodward. a. Apply fault at the Woodward 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
56	FLT56-1PH	*Single phase fault and sequence like previous*
57	FLT57-3PH	3 phase fault on the Woodward (515375) to Beaver County (580500) 345kV line, ckt1, near Woodward. a. Apply fault at the Woodward 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
58	FLT58-1PH	*Single phase fault and sequence like previous*
59	FLT59-3PH	3 phase fault on the Pioneer Tap (531392) to Sublette (531398) 115kV line, ckt1, near Pioneer Tap. a. Apply fault at the Pioneer Tap 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
60	FLT60-1PH	*Single phase fault and sequence like previous*
61	FLT61-3PH	3 phase fault on the Pioneer Tap (531392) to Plymell (531393) 115kV line, ckt1, near Pioneer Tap. a. Apply fault at the Pioneer Tap 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
62	FLT62-1PH	*Single phase fault and sequence like previous*
63	FLT63-3PH	3 phase fault on the Plymell (531393) to Holcomb (531448) 115kV line, ckt1, near Plymell. a. Apply fault at the Plymell 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
64	FLT64-1PH	*Single phase fault and sequence like previous*
65	FLT65-3PH	3 phase fault on the Plymell (531393) to Pierceville (531408) 115kV line, ckt1, near Plymell. a. Apply fault at the Plymell 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.

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

Ref. No.	Case Name	Description
66	FLT66-1PH	*Single phase fault and sequence like previous*
67	FLT67-3PH	3 phase fault on the Pioneer Tap (531392) to Satanta Tap (531396) 115kV line, ckt1, near Pioneer Tap. a. Apply fault at the Pioneer Tap115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
68	FLT68-1PH	*Single phase fault and sequence like previous*
69	FLT69-3PH	3 phase fault on the Pioneer Tap (531392) to SAT-TAP (531396) 115kV line, ckt1, near Pioneer Tap. a. Apply fault at the Pioneer Tap 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
70	FLT70-1PH	*Single phase fault and sequence like previous*
71	FLT71-3PH	3 phase fault on the Fletcher (531420) to Holcomb (531448) 115kV line, ckt1, near Fletcher. a. Apply fault at the Fletcher 115kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
72	FLT72-1PH	*Single phase fault and sequence like previous*
73	FLT73-3PH	3 phase fault on Holcomb (531449) to Setab (531465) 345kV line, near Holcomb. a. Apply fault at the Holcomb 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
74	FLT74-1PH	*Single phase fault and sequence like previous*
75	FLT75-3PH	3 phase fault on Setab (531465) to Mingo (531451) 345kV line, near Setab. a. Apply fault at the Setab 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
76	FLT76-1PH	*Single phase fault and sequence like previous*
77	FLT77-3PH	3 phase fault on Mingo (531451) to Red Willow (640325) 345kV line, ckt1, near Mingo. a. Apply fault at the Mingo 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
78	FLT78-1PH	*Single phase fault and sequence like previous*
79	FLT79-3PH	3 phase fault on Postrock (530583) to G12-011-TAP (562334) 345kV line ckt1, near Postrock. a. Apply fault at the Postrock 345kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
80	FLT80-1PH	*Single phase fault and sequence like previous*

SECTION 3: STABILITY ANALYSIS

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

Approach

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

Table 3-1
Calculated Single-Phase Fault Impedances

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

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

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

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

Results

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

Table 3-2
Stability Analysis Summary of Results

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

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

Table 3-2 (Continued)
Stability Analysis Summary of Results

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
27	FLT27-3PH	Yes	Yes	Yes	Yes
28	FLT28-3PH	Yes	Yes	Yes	Yes
29	FLT29-3PH	Yes	Yes	Yes	Yes
30	FLT30-3PH	Yes	Yes	Yes	Yes
31	FLT31-3PH	Yes	Yes	Yes	Yes
32	FLT32-3PH	Yes	Yes	Yes	Yes
33	FLT33-1PH	Yes	Yes	Yes	Yes
34	FLT34-3PH	Yes	Yes	Yes	Yes
35	FLT35-1PH	Yes	Yes	Yes	Yes
36	FLT36-3PH	Yes	Yes	Yes	Yes
37	FLT37-1PH	Yes	Yes	Yes	Yes
38	FLT38-3PH	Yes	Yes	Yes	Yes
39	FLT39-3PH	Yes	Yes	Yes	Yes
40	FLT40-1PH	Yes	Yes	Yes	Yes
41	FLT41-3PH	Yes	Yes	Yes	Yes
42	FLT42-1PH	Yes	Yes	Yes	Yes
43	FLT43-3PH	Yes	Yes	Yes	Yes
44	FLT44-1PH	Yes	Yes	Yes	Yes
45	FLT45-3PH	Yes	Yes	Yes	Yes
46	FLT46-1PH	Yes	Yes	Yes	Yes
51	FLT51-3PH	Yes	Yes	Yes	Yes
52	FLT52-1PH	Yes	Yes	Yes	Yes
53	FLT53-3PH	Yes	Yes	Yes[2]	Yes[2]
54	FLT54-1PH	Yes	Yes	Yes[2]	Yes[2]
55	FLT55-3PH	Yes	Yes	Yes	Yes

[2]Note: To obtain acceptable voltages, a 250 Mvar capacitor bank was added at the Reno 345 kV substation and a 15 Mvar capacitor bank was added at the Milan 138 kV substation.

Table 3-2 (Continued)
Stability Analysis Summary of Results

Ref. No.	Casename	Summer		Winter	
		Stable?	Acceptable Voltages?	Stable?	Acceptable Voltages?
56	FLT56-1PH	Yes	Yes	Yes	Yes
57	FLT57-3PH	Yes	Yes	Yes	Yes
58	FLT58-1PH	Yes	Yes	Yes	Yes
59	FLT59-3PH	Yes	Yes	Yes	Yes
60	FLT60-1PH	Yes	Yes	Yes	Yes
61	FLT61-3PH	Yes	Yes	Yes	Yes
62	FLT62-1PH	Yes	Yes	Yes	Yes
63	FLT63-3PH	Yes	Yes	Yes	Yes
64	FLT64-1PH	Yes	Yes	Yes	Yes
65	FLT65-3PH	Yes	Yes	Yes	Yes
66	FLT66-1PH	Yes	Yes	Yes	Yes
67	FLT67-3PH	Yes	Yes	Yes	Yes
68	FLT68-1PH	Yes	Yes	Yes	Yes
69	FLT69-3PH	Yes	Yes	Yes	Yes
70	FLT70-1PH	Yes	Yes	Yes	Yes
71	FLT71-3PH	Yes	Yes	Yes	Yes
72	FLT72-1PH	Yes	Yes	Yes	Yes
72	FLT72-1PH	Yes	Yes	Yes	Yes
73	FLT73-3PH	Yes	Yes	Yes	Yes
74	FLT74-1PH	Yes	Yes	Yes	Yes
75	FLT75-3PH	Yes	Yes	Yes	Yes
76	FLT76-1PH	Yes	Yes	Yes	Yes
77	FLT77-3PH	Yes	Yes	Yes	Yes
78	FLT78-1PH	Yes	Yes	Yes	Yes
79	FLT79-3PH	Yes	Yes	Yes	Yes
80	FLT80-1PH	Yes	Yes	Yes	Yes

The Stability Analysis determined that there was no wind turbine tripping that occurs from interconnecting GEN-2012-024 at 100% output.

Summer Peak Summary

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

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

For Contingency #25, 3 phase double circuit fault on the Thistle to Wichita 345 kV line, and Contingency #26, 3 phase double circuit fault on the Thistle to Clark County 345 kV line, there are low voltages observed that do not recover to 0.9 p.u. post-fault. After discussion with SPP, no mitigation was required for these double circuit faults. Refer to Figure 3-1 for a response plot of select bus voltages during Contingency #25 (FLT25-3PH) for summer peak conditions without mitigation.

Winter Peak Summary

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

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

For Contingency #25, 3 phase double circuit fault on the Thistle to Wichita 345 kV line, and Contingency #26, 3 phase double circuit fault on the Thistle to Clark County 345 kV line, there are low voltages observed that do not recover to 0.9 p.u. post-fault. After discussion with SPP, no mitigation was required for these double circuit faults. Refer to Figure 3-2 for a response plot of select bus voltages during Contingency #25 (FLT25-3PH) for winter peak conditions without mitigation.

Contingency #53 and #54 are a 3 phase and 1 phase fault, respectively, on the Woodward to G11-051-Tap 345 kV line. After discussion with SPP, it was determined that adding a 250 Mvar capacitor bank at the Reno 345 kV substation and a 15 Mvar capacitor bank at the Milan 138 kV substation would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of this mitigation, system stability and acceptable voltages were achieved. Refer to Figure 3-3 and Figure 3-4 for a response plot of select bus voltages during Contingency #53 (FLT53-3PH) for winter peak conditions without mitigation and with mitigation, respectively.

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

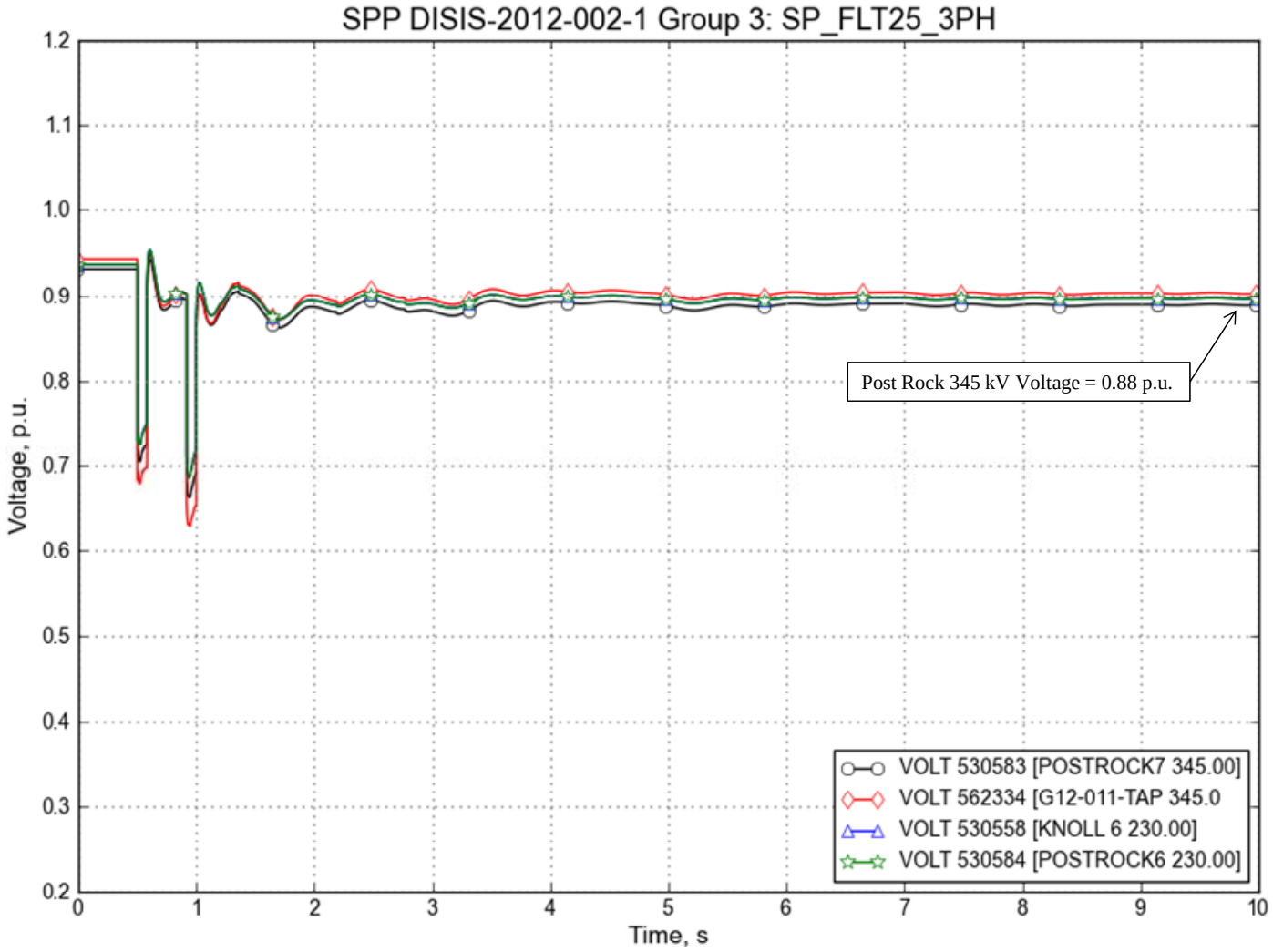

Figure 3-1. Response of select bus voltages during Contingency #25 (FLT25-3PH) for summer peak conditions without mitigation.

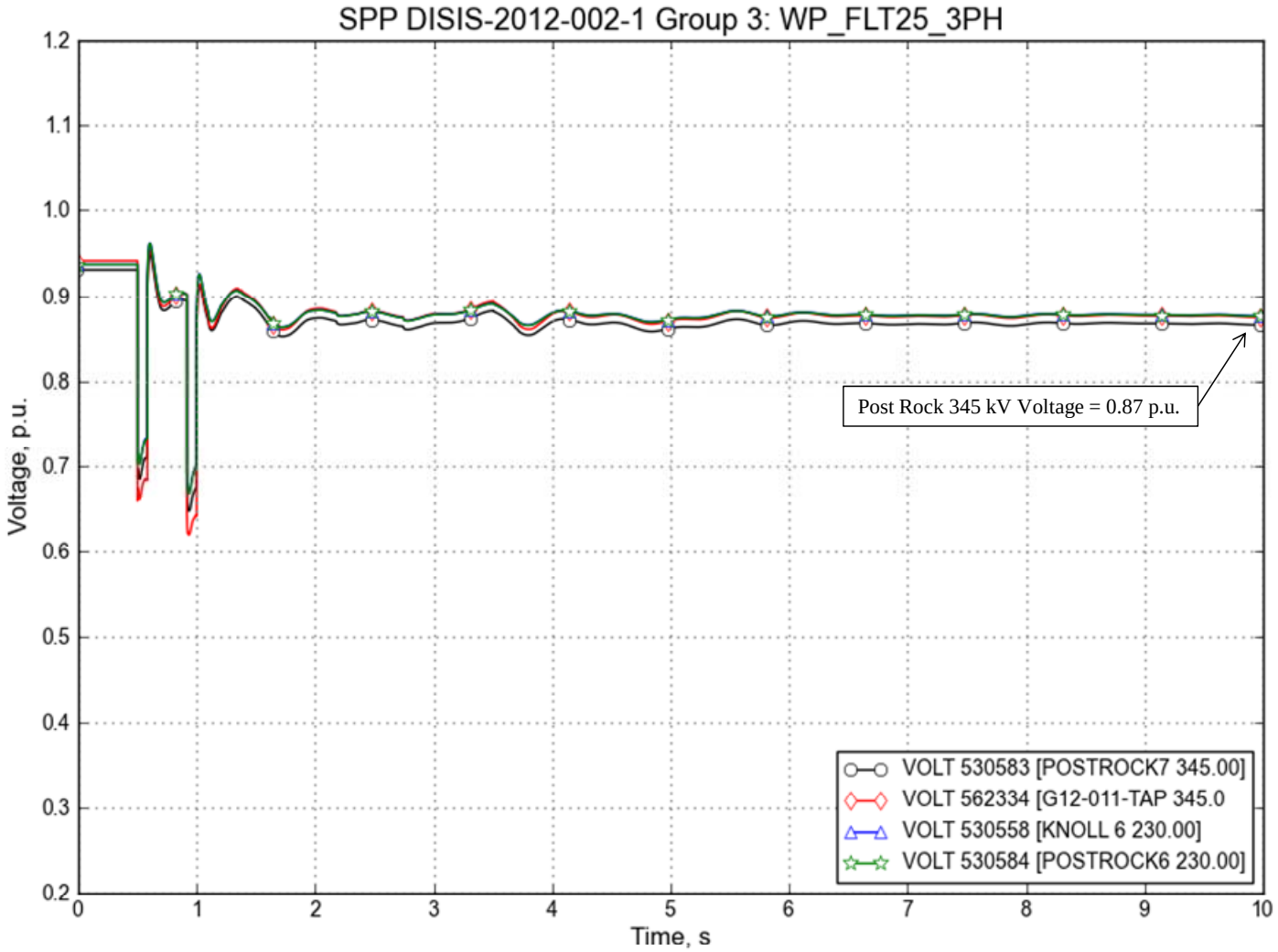

Figure 3-2. Response of select bus voltages during Contingency #25 (FLT25-3PH) for winter peak conditions without mitigation.

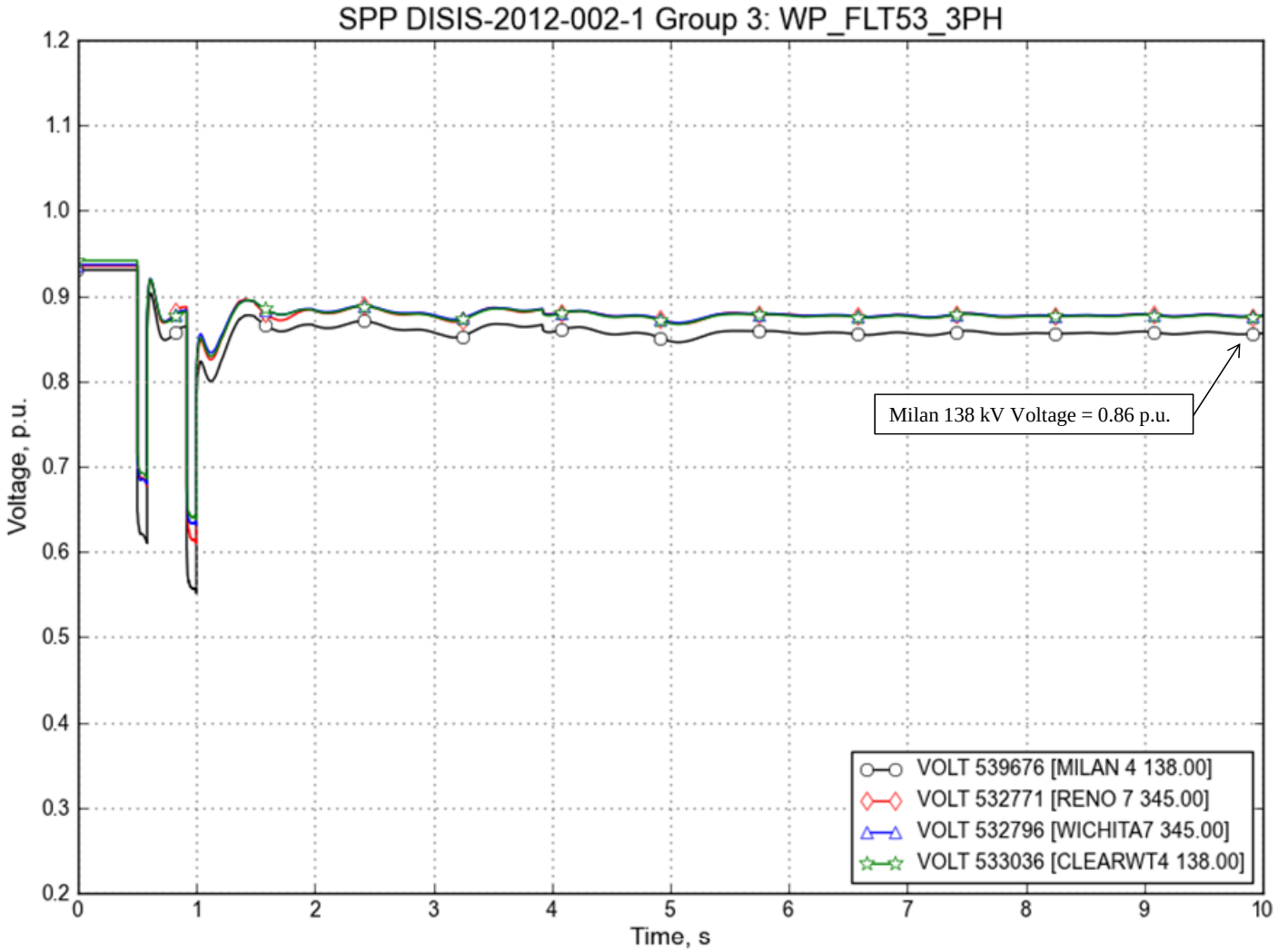

Figure 3-3. Response of select bus voltages during Contingency #53 (FLT53-3PH) for winter peak conditions without mitigation.

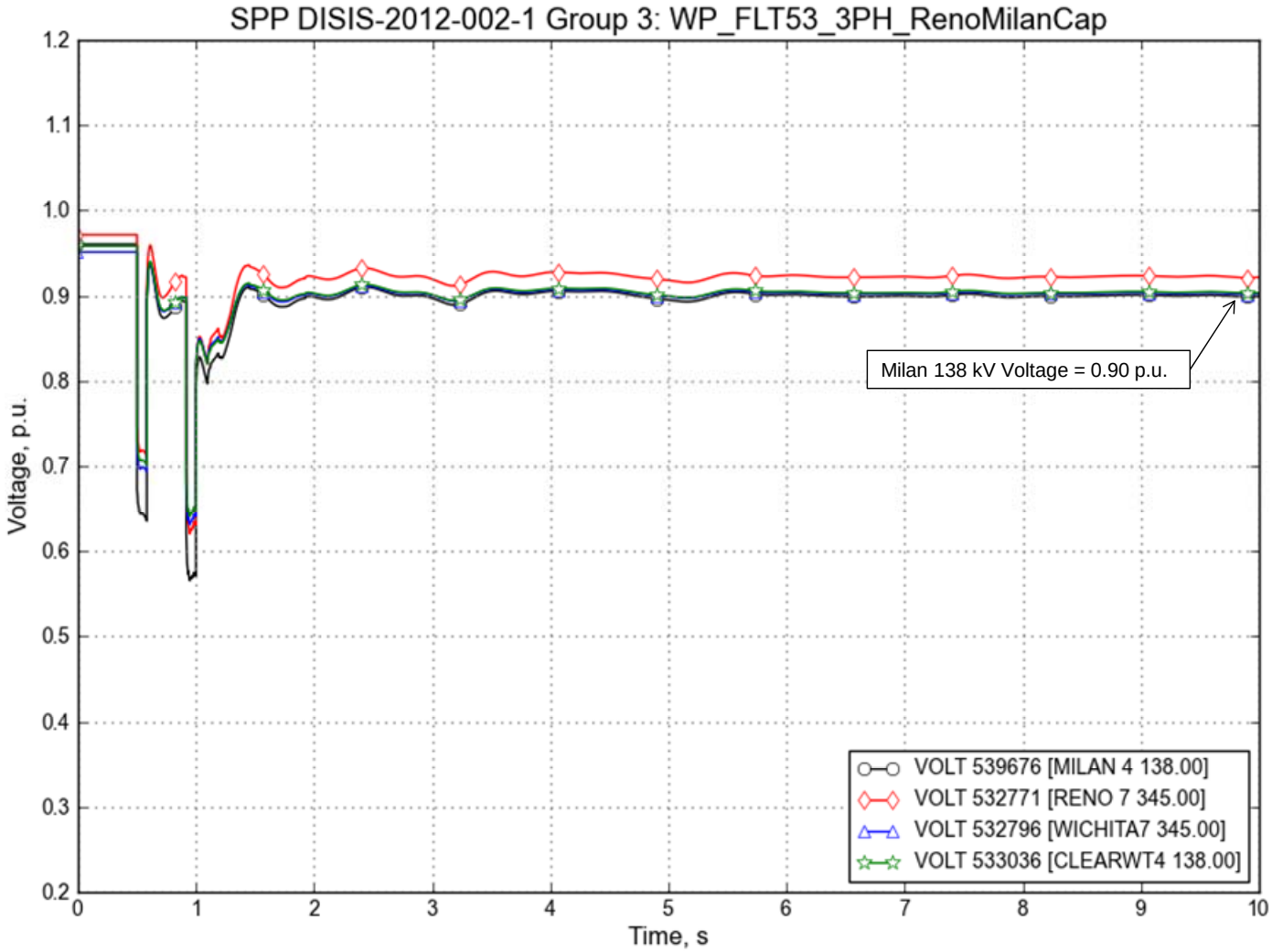

Figure 3-4. Response of select bus voltages during Contingency #53 (FLT53-3PH) for winter peak conditions with mitigation.

SECTION 4: POWER FACTOR ANALYSIS

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

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

4.1 Study Project – GEN-2012-024

Approach

The study project (GEN-2012-024) was disabled and a generator was placed at the study project's point of interconnect bus. The generator was modeled with PGEN = 180 MW, QMin = -9999 Mvar, and QMax = 9999 Mvar. All buses and transformers connected from the study project's POI bus to the GEN-2012-024 generator were disabled. The pre-project voltage at the POI (Clark County 345 kV - Bus 539800) for the summer peak conditions is 0.977 p.u. and for the winter peak conditions is 0.967 p.u. Therefore, the scheduled voltage for the POI was set to 1.0 p.u. for summer peak conditions and 1.0 p.u. for winter peak conditions.

Results

The power factor was calculated for summer and winter peak conditions. Table 4-1 shows the power factor results for GEN-2012-024. Note that a positive Q (Mvar) output illustrates that the generator is absorbing reactive power from the system, implying a leading power factor; a negative Q (Mvar) illustrates that the generator is supplying reactive power to the system, implying a lagging power factor.

Table 4-1
Power Factor Analysis: GEN-2012-024 (P_{GEN}=180 MW)*

Power Factor Analysis Power Factor Analysis: GEN-2012-024 (P_{GEN} = 180 MW)							
Case	Summer Peak				Winter Peak		
	Power Factor		Q** (MVAR)		Power Factor		Q** (MVAR)
Base	0.9614	Lagging	-51.53		0.9346	Lagging	-68.50
C1	0.9056	Lagging	-84.30		0.8687	Lagging	-102.62
C3	0.9648	Lagging	-49.10		0.9386	Lagging	-66.17
C5	0.9266	Lagging	-73.07		0.8802	Lagging	-97.03
C7	0.9418	Lagging	-64.23		0.8928	Lagging	-90.82
C9	0.9651	Lagging	-48.83		0.9352	Lagging	-68.15
C11	0.9711	Lagging	-44.25		0.9491	Lagging	-59.74
C13	0.9568	Lagging	-54.71		0.9218	Lagging	-75.68
C15	0.9156	Lagging	-79.07		0.8755	Lagging	-99.35
C17	0.9487	Lagging	-60.01		0.9137	Lagging	-80.04
C19	0.9520	Lagging	-57.86		0.9199	Lagging	-76.76
C21	0.9264	Lagging	-73.14		0.8981	Lagging	-88.15
C23	0.9473	Lagging	-60.87		0.9120	Lagging	-80.95
C25	0.9595	Lagging	-52.86		0.9319	Lagging	-70.04
C27	0.9605	Lagging	-52.18		0.9337	Lagging	-69.01
C29	0.9619	Lagging	-51.16		0.9361	Lagging	-67.66
C31	0.9612	Lagging	-51.65		0.9344	Lagging	-68.61
C33	0.9614	Lagging	-51.52		0.9343	Lagging	-68.65
C35	0.9613	Lagging	-51.56		0.9346	Lagging	-68.53
C37	0.9635	Lagging	-50.01		0.9377	Lagging	-66.72
C39	0.9610	Lagging	-51.80		0.9341	Lagging	-68.79
C41	0.9621	Lagging	-51.02		0.9361	Lagging	-67.61
C43	0.9609	Lagging	-51.89		0.9342	Lagging	-68.72
C45	0.9578	Lagging	-54.00		0.9284	Lagging	-72.06
C51	0.9614	Lagging	-51.53		0.9346	Lagging	-68.50
C53	0.8942	Lagging	-90.13		0.8356	Lagging	-118.35
C55	0.9602	Lagging	-52.39		0.9271	Lagging	-72.80
C57	0.9468	Lagging	-61.17		0.9155	Lagging	-79.12
C59	0.9614	Lagging	-51.53		0.9346	Lagging	-68.50
C61	0.9613	Lagging	-51.61		0.9348	Lagging	-68.39
C63	0.9618	Lagging	-51.22		0.9349	Lagging	-68.35
C65	0.9589	Lagging	-53.25		0.9346	Lagging	-68.50
C67	0.9612	Lagging	-51.63		0.9346	Lagging	-68.49
C69	0.9612	Lagging	-51.63		0.9346	Lagging	-68.49
C71	0.9615	Lagging	-51.43		0.9348	Lagging	-68.40
C73	0.9442	Lagging	-62.79		0.9203	Lagging	-76.51
C75	0.9311	Lagging	-70.50		0.9082	Lagging	-82.93
C77	0.9241	Lagging	-74.45		0.8943	Lagging	-90.06
C79	0.8694	Lagging	-102.30		0.8301	Lagging	-120.91

*The scheduled voltage for the POI (Clark County 345 kV) was 1.0 p.u. for summer peak and winter peak conditions.

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

Summary

The Power Factor Analysis shows that GEN-2012-024 has a power factor range of 0.8301 lagging (supplying) to 0.9711 lagging (supplying).

4.2 Overall Summary

The Power Factor Analysis shows that GEN-2012-024 has a power factor range of 0.8301 lagging (supplying) to 0.9711 lagging (supplying).

SECTION 5: CONCLUSIONS

Stability Analysis

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

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

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

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

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

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

Contingency #53 and #54 are a 3 phase and 1 phase fault, respectively, on the Woodward to G11-051-Tap 345 kV line. After discussion with SPP, it was determined that adding a 250 Mvar capacitor bank at the Reno 345 kV substation and a 15 Mvar capacitor bank at the Milan 138 kV substation would mitigate the voltage violations (bus voltages below 0.9 p.u.). With the addition of this mitigation, system stability and acceptable voltages were achieved.

Power Factor Analysis

The Power Factor Analysis shows that GEN-2012-024 has a power factor range of 0.8301 lagging (supplying) to 0.9711 lagging (supplying).