



# **GEN-2026-SR3**

## SURPLUS INTERCONNECTION SERVICE IMPACT STUDY

By SPP Generator Interconnection

Published on May 28, 2026

# REVISION HISTORY

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DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION	COMMENTS
05/28/2026	EPE Consulting	Initial Report	

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# EXECUTIVE SUMMARY

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Southwest Power Pool (SPP) requested that Electric Power Engineers, LLC (EPE) perform a Surplus Interconnection Service Impact Study for GEN-2026-SR3 to analyze the impact of the Surplus Interconnection Service being made available by the GEN-2006-002/GEN-2016-132 at its existing Point of Interconnection (POI), the Sweetwater 230 kV substation in the American Electric Power (AEP) control area.

GEN-2026-SR3, the proposed Surplus Generating Facility (SGF), will connect to the existing GEN-2006-002/GEN-2016-032 main collector substation and share its main power transformer. GEN-2006-002 and GEN-2016-132, the Existing Generating Facility (EGF), have an effective limit of 106.9 MW due to the signed Generator Interconnection Agreement and is making 100 MW of Surplus Interconnection Service available at its POI. As Per the SPP Open Access Transmission Tariff (SPP Tariff), the amount of Surplus Interconnection Service available to the Surplus Generating Facility (SGF) is limited by the amount of Interconnection Service granted to the EGF at the same POI. In addition, the Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring Network Upgrades except those specified in the SPP Tariff.

The proposed SGF configuration consists of Forty (40) PE FP4200 VISMA GFM storage inverters, each rated at 3.78 MVA with a total capacity of 151.2 MVA. The combined generation from both the SGF and the EGF may not exceed 106.9 MW at the POI as determined by the GIA. The SGF and EGF information is shown in Table ES-1: EGF & SGF Configuration below. The detailed SGF configuration is captured in Table ES-2: SGF Interconnection Configuration below.

**Table ES-1: EGF & SGF Configuration**

REQUEST	NAMEPLATE RATING (MVA)	INTERCONNECTION QUEUE CAPACITY (MW)	GENERATOR FUEL TYPE	POINT OF INTERCONNECTION
GEN-2026-SR3 (SGF)	151.2	100	Battery/Storage	Sweetwater 230kV
GEN-2006-002 / GEN-2016-132 (EGF)	118.8	106.9	Wind	Sweetwater 230kV

**Table ES-2: SGF Interconnection Configuration**

FACILITY	EXISTING CONFIGURATION (EGF)	SURPLUS CONFIGURATION (SGF)
Point of Interconnection	Sweetwater 230kV (511541)	Sweetwater 230kV (511541)
Configuration/Capacity	Mixture of GE 1.5 and 1.6 MW turbines	40 x PE FP4200 VISMA GFM Storage Inverters
Generation Interconnection Line	Length = 18 miles	Length = 18 miles
	R = 0.00094 pu	R = 0.00094 pu
	X = 0.006338 pu	X = 0.006338 pu
	B = 0.01392 pu	B = 0.01392 pu
Main Substation Transformer <sup>1</sup>	R = 0.00016 pu	R = 0.00016 pu
	X = 0.0809 pu	X = 0.0809 pu
	Winding MVA = 135 MVA	Winding MVA = 135 MVA
	Rating MVA = 225 MVA	Rating MVA = 225 MVA
Equivalent Collector Line <sup>2</sup>	N/A	R = 0.0018726 pu
		X = 0.0129798 pu
		B = 0.01298 pu
GSU Transformer <sup>1</sup>	R = 0.00315 pu	R = 0.0087 pu
	X = 0.0245 pu	X = 0.0896 pu
	Winding MVA = 100 MVA	Winding MVA = 151.2 MVA
	Rating MVA = 116.4 MVA	Rating MVA = 151.2 MVA
Generator Dynamic Model <sup>3</sup> & Power Factor	Gen Model: GEWTGCU1	Gen Model: PEGEN_VS0105T
	Electrical Model: GEWTECU1	Electrical Model: PECON_VS0105T
	Plant Model: N/A	Plant Model: PEPPC_VS0105T
Reactive Power Devices	N/A	N/A
1) X/R based on Winding MVA, 2) All pu are on 100 MVA Base		

SPP determined that power flow should not be performed as the EGF was dispatched to its full capacity in all of its DISIS group-specific power flow models. However, SPP determined that the surplus interconnection required short circuit and dynamic stability analyses. The scope of this

Surplus Interconnection Service Impact Study included reactive power analysis, short circuit analysis, and dynamic stability analysis.

## Summary of Reactive Power Analysis

The results of the reactive power analysis showed that the EGF needed a 1.4 Mvar of inductive compensation and the SGF needed 0.2 Mvar of inductive compensation on the 34.5 kV bus of the project substation, or equivalent support, with the surplus interconnection in place. This is necessary to offset the capacitive effect on the transmission network caused by the project's transmission line and collector system during reduced generation conditions. The information gathered from the charging current compensation analysis is provided as information to the Interconnection Customer and Transmission Owner (TO) and/or Transmission Operator. The applicable reactive power requirements will be further reviewed by the Transmission Owner and/or Transmission Operator.

## Summary of Short Circuit Analysis

The results from the short circuit analysis showed that the GEN-2026-SR3 contribution to three-phase fault currents in the immediate transmission systems at or near the GEN-2026-SR3 POI was no greater than 1.196 kA. All three-phase fault current levels within 5 buses of the POI with the GEN-2026-SR3 generator online were below 40 kA. The maximum three-phase fault current level within 5 buses of the POI with the EGF and SGF generators online was 34.77 kA.

## Summary of Dynamic Stability Analysis

The dynamic stability analysis determined that no new damping or voltage recovery violations of concern attributed to the GEN-2026-SR3 surplus interconnection service were observed during the simulated faults. Additionally, the project was found to stay connected during the contingencies that were studied and, therefore, will meet the Low Voltage Ride Through (LVRT) requirements of FERC Order #661A.

In conclusion of this analysis, SPP has determined that GEN-2026-SR3 may utilize the requested 100 MW of Surplus Interconnection Service being made available by the EGF. The combined generation from both the EGF and the SGF may not exceed 106.9 MW at the POI.

The customer must install monitoring and control equipment as needed to ensure that the SGF does not exceed the granted surplus amount and ensure that the combination of the EGF and SGF power injected at the POI does not exceed the EGF's Interconnection Service Amount. The monitoring and control scheme may be reviewed by the Transmission Owner and documented in Appendix C of the SGF GIA.

In accordance with FERC Order No. 827, the SGF will be required to provide dynamic reactive power within the range of 0.95 leading to 0.95 lagging at the high side of the main power transformer.

Nothing in this study should be construed as a guarantee of transmission service or delivery rights. If the customer wishes to obtain deliverability to final customers, a separate request for transmission service must be requested on Southwest Power Pool's OASIS by the customer.

# SCOPE OF STUDY

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Southwest Power Pool (SPP) requested Electric Power Engineers, LLC (EPE) perform a Surplus Interconnection Service Impact Study for GEN-2026-SR3, the Surplus Generating Facility (SGF). A Surplus Interconnection Service Impact Study is performed to identify the impact of the Surplus Interconnection Service on the transmission system reliability and any additional Interconnection Facilities necessary pursuant to the SPP Generator Interconnection Procedures (“GIP”) contained in Attachment V Section 3.3 of the SPP Open Access Transmission Tariff (SPP Tariff). The amount of Surplus Interconnection Service available to the SGF is limited by the amount of Interconnection Service granted to the existing interconnection customer for the Existing Generating Facility (EGF) at the same POI. The Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring additional Network Upgrades except those specified in the SPP Tariff. The required scope of the study is dependent upon the EGF and SGF specifications. The sections below include the basis of the analyses included in the scope of study.

## POWERFLOW ANALYSIS

To determine whether power flow analysis is required, SPP evaluates if the EGF was dispatched to its full capacity and/or its Interconnection Service amount in all DISIS group-specific power flow models. It was determined that a power flow analysis for this study would not be performed as GEN-2006-002 and GEN-2016-032 were dispatched at its interconnection service amount in its respective DISIS cluster.

## STABILITY ANALYSIS

SPP requires that a dynamic stability analysis be performed to determine whether the SGF, EGF, and the transmission system will remain stable and within applicable performance criteria. Dynamic stability analysis was conducted under two dispatch scenarios. In the first scenario, the SGF operated at 100% of its capacity (100 MW) while the EGF was offline and disconnected. In the second scenario, SGF and EGF operated collectively at 100% of the GIA capacity (106.9 MW). Additionally, a sensitivity analysis was also performed with both EGF and SGF online and dispatched to full GIA capacity whilst the electrically equivalent requests sharing a POI with SGF were also dispatched at 100% of their capacity. The stability analyses will identify any additional Interconnection Facilities and Network Upgrades necessary.

## SHORT CIRCUIT ANALYSIS

SPP requires that a short circuit analysis be performed to determine the maximum available fault current requiring interruption by protective equipment with both the SGF and EGF online, along

with the amount of increase in maximum fault current due to the addition of the SGF. The analysis was performed on the most conservative stability scenario with both SGF and EGF online.

## REACTIVE POWER ANALYSIS

SPP requires that a reactive power analysis be performed on the requested configuration as it is a non-synchronous resource. The reactive power analysis determines the capacitive effect at the POI caused by the project's collector system and transmission line's capacitance. A shunt reactor size is determined to offset the capacitive effect and maintain zero (0) MVar flow at the POI while the project's generators and capacitors are offline.

## NECESSARY INTERCONNECTION FACILITIES & NETWORK UPGRADES

The SPP Tariff<sup>1</sup> states that the reactive power, short circuit/fault duty, stability, and steady-state analyses (where applicable) for the Surplus Interconnection Service will identify any additional Interconnection Facilities necessary. In addition, the analysis will determine if any Network Upgrades are required for mitigation. The Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring additional Network Upgrades unless (a) those additional Network Upgrades are either (1) located at the Point of Interconnection substation and at the same voltage level as the Generating Facility with an effective GIA, or (2) are System Protection Facilities; and (b) there are no material adverse impacts on the cost or timing of any Interconnection Requests pending at the time the Surplus Interconnection Service request is submitted.

## STUDY LIMITATIONS

The assessments and conclusions provided in this report are based on assumptions and information provided to EPE by others. While the assumptions and information provided may be appropriate for the purposes of this report, EPE does not guarantee that those conditions assumed will occur. As such, the conclusions and results presented in this report may vary depending on the extent to which actual future conditions differ from the assumptions made or information used herein.

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<sup>1</sup> SPP Open Access Transmission Tariff Section 3.3.4.1

# SURPLUS INTERCONNECTION SERVICE REQUEST

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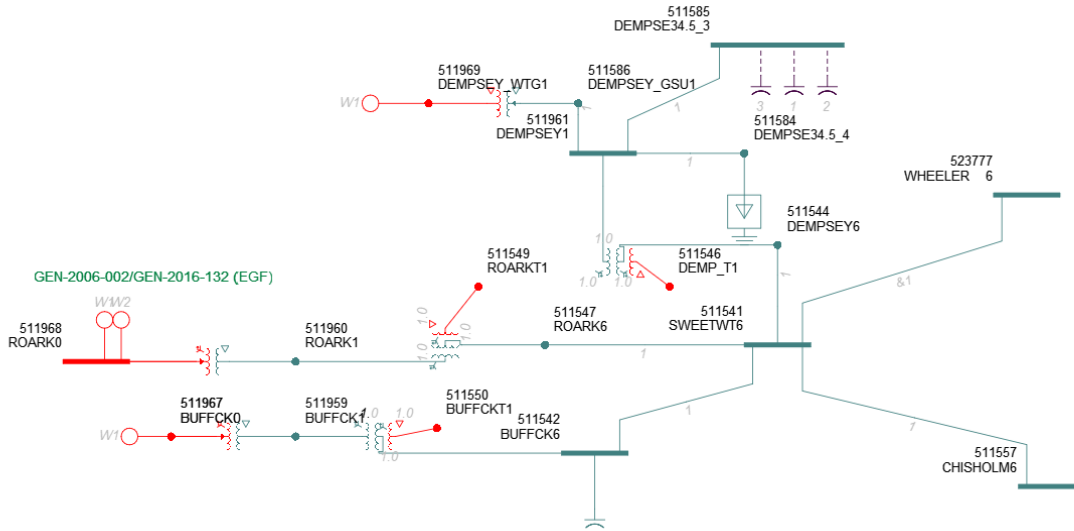
The Interconnection Customer has requested a Surplus Interconnection Service Impact Study for GEN-2026-SR2 to utilize the Surplus Interconnection Service being made available by the GEN-2006-002/GEN-2016-132 at its existing Point of Interconnection (POI), the Sweetwater 230 kV substation in American Electric Power (AEP) control area.

GEN-2006-002 and GEN-2016-132, collectively referred to as the EGF, have a maximum effective capacity of 106.9 MW due to the signed GIA and is making 100 MW of Surplus Interconnection Service available at its POI. According to the SPP Tariff, the amount of Surplus Interconnection Service available to the SGF is constrained by the Interconnection Service granted to the EGF at the same POI. Moreover, this Surplus Interconnection Service is only accessible up to the limit that can be supported without necessitating additional Network Upgrades, except those already specified in the SPP Tariff.

The SGF has a Point of Interconnection (POI) at the Sweetwater 230 kV substation. The proposed configuration consists of forty (40) Power Electronics FP4200 VISMA GFM Battery Energy Storage System (BESS) inverters, each rated at 3.78 MVA with a total capacity of 151.2 MVA. The combined generation from both the SGF and the EGF may not exceed 106.9 MW at the POI. The SGF and EGF information is shown in Table 2-1 below. The existing configuration of GEN-2006-002/GEN-2016-132 is shown in Figure 2-1 below.

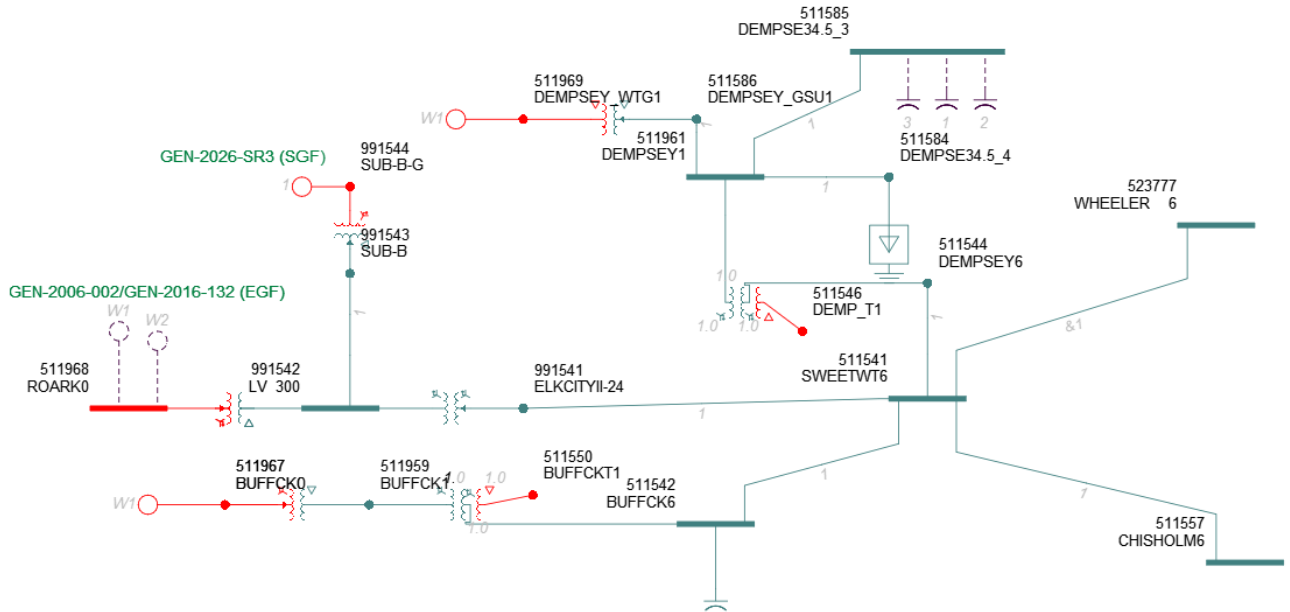
**Table 2-1: EGF and SGF Configuration**

REQUEST	NAMEPLATE RATING (MVA)	INTERCONNECTION QUEUE CAPACITY (MW)	GENERATOR FUEL TYPE	POINT OF INTERCONNECTION
GEN-2026-SR3 (SGF)	151.2	100	Battery/Storage	Sweetwater 230kV
GEN-2006-002 / GEN-2016-132 (EGF)	118.8	106.9	Wind	Sweetwater 230kV



**Figure 2-1: GEN-2006-002/GEN-2016-132 Single Line Diagram (Existing Configuration\*)**

The proposed detailed SGF configuration is captured in Figure 2-2 and Table 2-2: below.



**Figure 2-2: GEN-2026-SR3 Single Line Diagram (Modification Configuration)**

**Table 2-2: GEN-2026-SR3 Surplus Request**

FACILITY	EXISTING CONFIGURATION (EGF)	SURPLUS CONFIGURATION (SGF)
Point of Interconnection	Sweetwater 230kV (511541)	Sweetwater 230kV (511541)
Configuration/Capacity	Mixture of GE 1.5 and 1.6 MW turbines	40 x PE FP4200 VISMA GFM Storage Inverters
Generation Interconnection Line	Length = 18 miles	Length = 18 miles
	R = 0.00094 pu	R = 0.00094 pu
	X = 0.006338 pu	X = 0.006338 pu
	B = 0.01392 pu	B = 0.01392 pu
Main Substation Transformer <sup>1</sup>	R = 0.0016 pu	R = 0.0016 pu
	X = 0.0809 pu	X = 0.0809 pu
	Winding MVA = 135 MVA	Winding MVA = 135 MVA
	Rating MVA = 225 MVA	Rating MVA = 225 MVA
Equivalent Collector Line <sup>2</sup>	N/A	R = 0.0018726 pu
		X = 0.0129798 pu
		B = 0.01298 pu
GSU Transformer <sup>1</sup>	R = 0.00315 pu	R = 0.0087 pu
	X = 0.0245 pu	X = 0.0896 pu
	Winding MVA = 100 MVA	Winding MVA = 151.2 MVA
	Rating MVA = 116.4 MVA	Rating MVA = 151.2 MVA
Generator Dynamic Model <sup>3</sup> & Power Factor	Gen Model: GEWTGCU1	Gen Model: PEGEN_VS0105T
	Electrical Model: GEWTECU1	Electrical Model: PECON_VS0105T
	Plant Model: N/A	Plant Model: PEPPC_VS0105T
Reactive Power Devices	N/A	N/A
1) X/R based on Winding MVA, 2) All pu are on 100 MVA Base		

# REACTIVE POWER ANALYSIS

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The reactive power analysis was performed for GEN-2026-SR3 to determine the capacitive charging effects during reduced generation conditions (unsuitable wind speeds, unsuitable solar irradiance, insufficient state of charge, idle conditions, curtailment, etc.) at the generation site and to size shunt reactors that would reduce the project reactive power contribution to the POI to approximately zero.

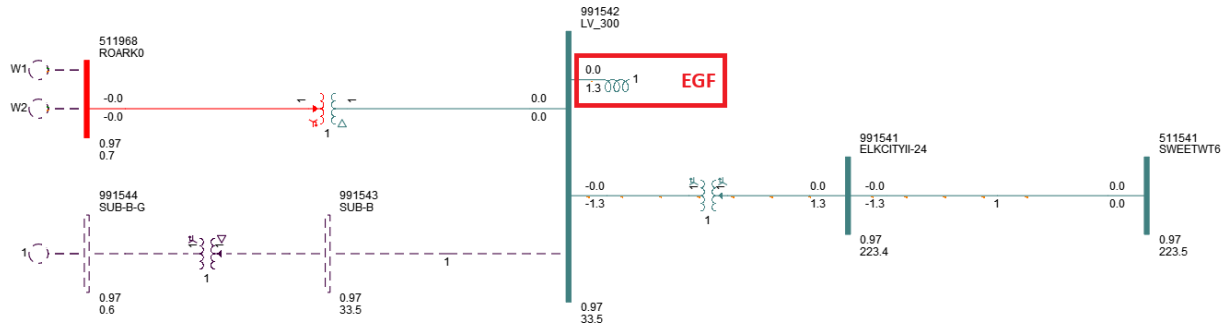
## METHODOLOGY AND CRITERIA

To determine the shunt reactor size required to compensate for the charging current attributed to the SGF collection system, all SGF components were switched offline and the EGF generator was switched offline while its other collector system elements remained online. A shunt reactor was tested at the project's collector substation's 34.5 kV bus to set the MVar injection at the POI to zero. EPE performed the reactive power analysis using the surplus interconnection service request data based on the DISIS-2022-001 stability study models:

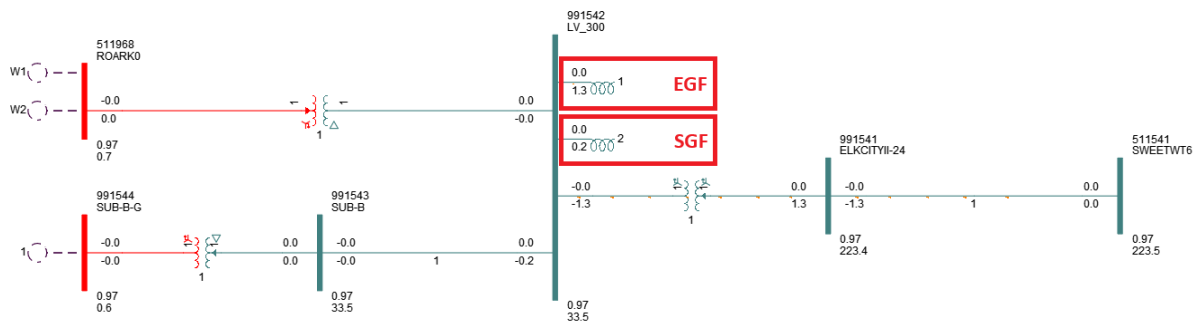
1. 2025 Summer Peak (25SP)
2. 2025 Winter Peak (25WP)

## REACTIVE POWER RESULTS

The results from the analysis showed that the EGF needed approximately 1.4 Mvar of inductive compensation, and the SGF needed 0.2 Mvar of inductive compensation at its project substation to reduce the POI MVar to zero. Figure 3-1 illustrates the shunt reactor size needed to reduce the POI MVar to zero for the EGF alone. Figure 3-2 illustrates the shunt reactor size needed to reduce the POI MVar to zero with the EGF and SGF collector system online. The final shunt reactor requirements or equivalent support for GEN-2026-SR3 are shown in Table 3-1.



**Figure 3-1: GEN-2006-002/GEN-2016-132 (EGF) Single Line Diagram w/ Charging Current Compensation**



**Figure 3-2: GEN-2006-002/GEN-2016-132 (EGF) & GEN-2026-SR3 (SGF) Single Line Diagram w/ Charging Current Compensation**

**Table 3-1: Reactor Size for Surplus Request**

MACHINE	POI BUS	REACTOR SIZE (MVAR)
GEN-2006-002/GEN-2016-132 (EGF)	Sweetwater 230kV (511541)	1.4
GEN-2026-SR3 (SGF)	Sweetwater 230kV (511541)	0.2
GEN-2006-002/GEN-2016-132 (EGF) & Gen-2026-SR3 (SGF)	Sweetwater 230kV (511541)	1.6

# SHORT CIRCUIT ANALYSIS

A short circuit study was performed to determine the maximum available fault current requiring interruption by protective equipment with both the SGF and EGF online for each bus in the relevant subsystem, and the amount of increase in maximum fault current due to the addition of the SGF. The detailed results of the short circuit analysis are provided in Appendix B: Gen-2026-SR3 Short Circuit Results.

## METHODOLOGY

The short circuit analysis included applying a three-phase fault on buses up to 5 levels away from the 115 kV POI bus. The PSS/E “Automatic Sequence Fault Calculation (ASCC)” fault analysis module was used to calculate the fault current levels in the transmission system with and without GEN-2026-SR3 online. The first scenario was studied with both the SGF and EGF in service. In the second scenario the SGF was disconnected while the EGF was online to determine the impact of the SGF.

EPE created a short circuit model using the DISIS-2022-001 25SP stability study model by adjusting the GEN-2026-SR3 short circuit parameters consistent with the provided data. The adjusted parameters are shown in Table 4-1 below.

**Table 4-1: Short Circuit Model Parameters\***

PARAMETER	VALUE BY GENERATOR BUS#
	991544
Machine MVA Base	151.20
R (pu)	0.01
X'' (pu)	0.05

\*pu values based on Machine MVA Base

## SHORT-CIRCUIT ANALYSIS RESULTS

The results of the short circuit analysis for the 25SP model are summarized in Table 4-1 and Table 4-2. GEN-2026-SR3 POI bus (Sweetwater 230 kV – 511541) fault current magnitudes are provided in Table 4-1 showing a maximum fault current change of 1.196 kA with the GEN-2026-SR3 project online. Table 4-2 shows the maximum fault current magnitudes and fault current increases with the GEN-2026-SR3 project online.

The maximum fault current calculated within 5 buses of the GEN-2026-SR3 POI (including the POI bus) was less than 40 kA for the 25SP model. There were no buses with a maximum three-phase fault current over 40 kA. The maximum GEN-2026-SR3 contribution to three-phase fault current was about 12.52% and 1.196 kA.

**Table 4-1: POI Short Circuit Results**

CASE	EGF ONLY CURRENT (KA)	SGF & EGF CURRENT (KA)	MAX KA CHANGE	MAX %CHANGE
25SP	9.552	10.748	1.196	12.52%

**Table 4-2: 25SP Short Circuit Results**

VOLTAGE (KV)	MAX. CURRENT (EGF & SGF) (KA)	MAX KA CHANGE	MAX %CHANGE
69	7.3877	0.0447	0.88%
115	31.2754	0.1614	2.34%
138	34.7652	0.1255	1.04%
230	27.8944	1.196	12.52%
345	24.6154	0.3217	2.29%
<b>Max</b>	<b>34.7652</b>	<b>1.196</b>	<b>12.52%</b>

# DYNAMIC STABILITY ANALYSIS

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EPE performed a dynamic stability analysis to identify the impact of the surplus generator GEN-2026-SR3. The analysis was performed according to SPP's Disturbance Performance Requirements shown in Appendix C: SPP Disturbance Performance Requirements. The surplus request details are described in Scope of Study section above and the dynamic modeling data is provided in Appendix A: GEN-2026-SR3 Dynamic model.

## METHODOLOGY AND CRITERIA

The dynamic stability analysis was performed using models developed with the requested configuration of forty (40) PE FP4200 VISMA GFM BESS inverters, rated at 3.78 MVA per inverter, with a total dispatch of 100 MW at the POI. This stability analysis was performed using PTI's PSS/E version 34.8 software. The dataset from the surplus interconnection service requested for the GEN-2026-SR3 project was used to develop the modified stability models for this impact study, no other modifications were made, based on the DISIS-2022-001 stability study models:

1. 2025 Summer Peak (25SP)
2. 2025 Winter Peak (25WP)

Two stability model scenarios were developed for each season using the DISIS-2022-001 models.

- Scenario 1 - The SGF operated at 100% of its capacity (SGF = 101.1 MW, EGF = 0 MW), while the EGF generator was offline and disconnected.
- Scenario 2 - The SGF and EGF collectively operated to set the POI injection to the Interconnection service amount of the EGF (SGF = 50 MW, EGF = 56.9 MW).

A sensitivity study of Scenario 2 was also performed where the adjacent electrically equivalent requests (GEN-2006-035 and GEN-2006-043) were dispatched at full injection capacity.

The EGF has an interconnection service limit of 106.9 MW that was determined by the signed GIA. The study scenarios for the summer peak case and winter peak case are outlined in Table 5-1.

The modified dynamic model data for the GEN-2026-SR3 project is provided in Appendix A: GEN-2026-SR3 Dynamic model. The power flow models and associated dynamic database were initialized (no-fault test) to confirm that there were no errors in the initial conditions of the system and the dynamic data.

**Table 5-1: Study Scenarios for 25SP (Generator Dispatch at Generator Terminals, MW)**

SEASON	SCENARIO	EGF DISPATCH (MW)	SGF DISPATCH (MW)	EGF + SGF AT POI (MW)
25SP	1	0	101.1	100
25SP	2	56.9	50.9	106.9
25WP	1	0	101.1	100
25WP	2	56.9	50.9	106.9

During the fault simulations, the active power (PELEC), reactive power (QELEC), and terminal voltage (ETERM) were monitored for GEN-2026-SR3 and other current and prior queued projects in their cluster Group 4. In addition, voltages of five (5) buses away from the POI of GEN-2026-SR3 were monitored and plotted. The machine rotor angle for synchronous machines within five levels of the POI were monitored. In addition, the voltages of all 69 kV and above buses within the study area were monitored.

## FAULT DEFINITIONS

EPE developed the faults for GEN-2026-SR3 as required. The faults were simulated using the study models. The fault events included three-phase faults and single-line-to-ground stuck breaker faults. Single-line-to-ground faults are approximated by applying a fault impedance to bring the faulted bus positive sequence voltage to 0.6 pu. The simulated faults are listed and described in Appendix D below. These contingencies were applied to the modified 25SP and 25WP models for both scenarios.

## RESULTS

### SCENARIO 1 STABILITY RESULTS

The dynamic stability analysis determined there were no new damping or voltage recovery violations of concern attributed to the GEN-2026-SR3 SGF observed during the simulated faults for Scenario 1 (SGF = 101.1 MW, EGF = 0 MW).

Refer to Appendix Table E-1 for a summary of results for the stability analysis for the contingencies listed in Appendix Table D-1. Appendix Table E-1 is a summary of the Scenario 1 stability results for the 2025 Summer Peak and 2025 Winter Peak conditions and states whether the system

remained stable, or generation tripped offline, if acceptable voltage recovery was observed after the fault was cleared, and if the voltage recovered to above 0.9 p.u. and below 1.1 p.u. post fault steady-state conditions. Voltage recovery criteria require that, following the clearance of a fault, the transient voltage must recover to at least 0.7 p.u. within 2.5 seconds, and must not exceed 1.2 p.u. at any time after the fault. The voltage should then stabilize at a steady-state level—for N-1 contingencies, this should return to the pre-contingency level or remain within the range of 0.9 p.u. to 1.1 p.u.

Refer to Appendix F: Simulation Plots for a complete set of plots for all contingencies for 2025 Summer Peak and 2025 Winter Peak conditions.

## SCENARIO 2 STABILITY RESULTS

The dynamic stability analysis determined there were no new damping or voltage recovery violations of concern attributed to the GEN-2026-SR3 SGF observed during the simulated faults for Scenario 2 (SGF = 50.9 MW, EGF = 56.9 MW).

Refer to Appendix Table E-2 for a summary of results for the stability analysis for the contingencies listed in Appendix Table D-1. Appendix Table E-2 is a summary of the Scenario 2 stability results for the 2025 Summer Peak and 2025 Winter Peak conditions and states whether the system remained stable, or generation tripped offline, if acceptable voltage recovery was observed after the fault was cleared, and if the voltage recovered to above 0.9 p.u. and below 1.1 p.u. post fault steady-state conditions. Voltage recovery criteria require that, following the clearance of a fault, the transient voltage must recover to at least 0.7 p.u. within 2.5 seconds, and must not exceed 1.2 p.u. at any time after the fault. The voltage should then stabilize at a steady-state level—for N-1 contingencies, this should return to the pre-contingency level or remain within the range of 0.9 p.u. to 1.1 p.u.

Refer to Appendix F: Simulation Plots for a complete set of plots for all contingencies for 2025 Summer Peak and 2025 Winter Peak conditions.

# NECESSARY INTERCONNECTION FACILITIES AND NETWORK UPGRADES

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This study identified the impact of the Surplus Interconnection Service on the transmission system reliability and any additional Interconnection Facilities or Network Upgrades necessary. The Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring additional Network Upgrades unless (a) those additional Network Upgrades are either (1) located at the Point of Interconnection substation and at the same voltage level as the Generating Facility with an effective GIA, or (2) are System Protection Facilities; and (b) there are no material adverse impacts on the cost or timing of any Interconnection Requests pending at the time the Surplus Interconnection Service request is submitted.

## INTERCONNECTION FACILITIES

This study did not identify any additional Interconnection Facilities required by the addition of the SGF. SPP will reach out to the TO and/or TOP to determine if there are any additional Interconnection Facilities required.

## NETWORK UPGRADES

This study did not identify any Network Upgrades required by the addition of the SGF. SPP will reach out to the TO and/or TOP to determine if there are any additional Network Upgrades that are either (1) located at the Point of Interconnection substation and at the same voltage level as the Generating Facility with an effective GIA, or (2) are System Protection Facilities.

# SURPLUS INTERCONNECTION SERVICE DETERMINATION AND REQUIREMENTS

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In accordance with Attachment V of the SPP Tariff, SPP shall evaluate the request for Surplus Interconnection Service and inform the Interconnection Customer in writing of whether the Surplus Interconnection Service can be utilized without negatively impacting the reliability of the Transmission System and without any additional Network Upgrades necessary except those specified in the SPP Tariff.

## SURPLUS SERVICE DETERMINATION

SPP determined the request for Surplus Interconnection Service does not negatively impact the reliability of the Transmission System and no required Network Upgrades or Interconnection Facilities were identified by this Surplus Interconnection Service Impact Study. EPE evaluated the impact of the requested Surplus Interconnection Service on the prior study results and determined that the requested Surplus Interconnection Service resulted in similar dynamic stability and short circuit analyses and that the prior study steady-state results are not negatively impacted. SPP has determined that GEN-2026-SR3 may utilize the requested 101.1 MW of Surplus Interconnection Service being made available by GEN-2006-002/GEN-2016-132.

## SURPLUS SERVICE REQUIREMENTS

The amount of Surplus Interconnection Service available to be used is limited by the amount of Interconnection Service granted to the existing interconnection customer at the same POI. The combined generation from both the SGF and the EGF may not exceed 106.9 MW at the POI, which is the total Interconnection Service amount currently granted to the EGF.

The customer must install monitoring and control equipment as needed to ensure that the SGF does not exceed the granted surplus amount and ensure the combination of the SGF and EGF power injected at the POI does not exceed the EGF's Interconnection Service amount. The monitoring and control scheme may be reviewed by the TO and documented in Appendix C of the SGF GIA.

# CONCLUSIONS

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The amount of Surplus Interconnection Service available to be used is limited by the amount of Interconnection Service granted to the existing interconnection customer at the same POI. The combined generation from both the SGF and the EGF may not exceed 106.9 MW at the POI, which is the total Interconnection Service amount currently granted to the EGF. SPP determined that power flow should not be performed as the EGF was dispatched to its full capacity in all DISIS group-specific power flow models. However, SPP determined that the surplus interconnection required reactive power, short circuit and dynamic stability analyses.

## Summary of Reactive Power Analysis

The results of the reactive power analysis showed that the EGF needed a 1.4 Mvar of inductive compensation and the SGF needed 0.2 Mvar of inductive compensation on the 34.5 kV bus of the project substation, or equivalent support, with the surplus interconnection in place. This is necessary to offset the capacitive effect on the transmission network caused by the project's transmission line and collector system during reduced generation conditions. The information gathered from the charging current compensation analysis is provided as information to the Interconnection Customer and Transmission Owner (TO) and/or Transmission Operator. The applicable reactive power requirements will be further reviewed by the Transmission Owner and/or Transmission Operator.

## Summary of Short Circuit Analysis

The results from the short circuit analysis showed that the GEN-2026-SR3 contribution to three-phase fault currents in the immediate transmission systems at or near the GEN-2026-SR3 POI was no greater than 1.196 kA. All three-phase fault current levels within 5 buses of the POI with the GEN-2026-SR3 generator online were below 40 kA. The maximum three-phase fault current level within 5 buses of the POI with the EGF and SGF generators online was 34.765 kA.

## Summary of Dynamic Stability Analysis

The dynamic stability analysis determined that no new damping or voltage recovery violations of concern attributed to the GEN-2026-SR3 surplus interconnection service were observed during the simulated faults. Additionally, the project was found to stay connected during the contingencies that were studied and, therefore, will meet the Low Voltage Ride Through (LVRT) requirements of FERC Order #661A.

In conclusion of this analysis, SPP has determined that GEN-2026-SR3 may utilize the requested 100 MW of Surplus Interconnection Service being made available by the EGF. The combined generation from both the EGF and the SGF may not exceed 106.9 MW at the POI.

The customer must install monitoring and control equipment as needed to ensure that the SGF does not exceed the granted surplus amount and ensure that the combination of the EGF and SGF power injected at the POI does not exceed the EGF's Interconnection Service Amount. The monitoring and control scheme may be reviewed by the Transmission Owner and documented in Appendix C of the SGF GIA.

In accordance with FERC Order No. 827, the SGF will be required to provide dynamic reactive power within the range of 0.95 leading to 0.95 lagging at the high side of the main power transformer.

Nothing in this study should be construed as a guarantee of transmission service or delivery rights. If the customer wishes to obtain deliverability to final customers, a separate request for transmission service must be requested on Southwest Power Pool's OASIS by the customer.

# APPENDIX A: GEN-2026-SR3 DYNAMIC MODEL

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The dynamic data for GEN-2006-0002, GEN-2016-132 and GEN-2026-SR3 is shown below:

511968 'USRMDL' W1 'GEWTGCU1' 101 1 2 18 3 3 48 0 1.5 0.8000 0.5000 0.9000 1.2200 1.2000 2.0000  
 0.4000 0.8000 10.000 0.2000E-01 0.0000 0.0000 0.5000 0.1670 0.9000 0.9250 0.0000 /

511968 'USRMDL' W1 'GEWTECU1' 102 0 9 67 18 16 511968 0 1 0 0 0 1 1 0.1500 18.000 5.0000 0.0000  
 0.0000 0.5000E-01 3.0000 0.6000 1.1200 0.4000E-01 0.4360 -0.4360 1.1200 0.2000E-01 0.4500 -0.4500  
 60.00 0.1000 0.9000 1.1000 40.00 0.5000 1.450 0.5000E-01 0.5000E-01 1.000 0.1500 0.9600 0.9960 1.0040  
 1.040 1.000 0.9500 0.9500 0.4000 1.000 0.2000 1.000 0.2500 -1.000 14.00 25.00 3.000 -0.9000 8.0000  
 0.2000 10.00 1.000 1.700 1.1200 1.250 5.000 0.000 0.000 0.0000 0.2500E-02 1.000 5.500 0.1000 -1.0000  
 0.1000 0.000 0.1000 -0.1000 0.7000 0.1200 -0.1200 /

511968 'USRMDL' W1 'GEWT2MU1' 103 0 1 5 4 3 0 4.6300 0.0000 0.0000 1.8800 2.3000 /

511968 'USRMDL' 'W1' 'GEWTGDU1' 106 0 1 6 0 4 0 9999.0 5.0000 30.000 9999.0 9999.0 30.000/

511968 'USRMDL' 'W1' 'GEWTARU1' 105 0 1 9 1 4 0 20.000 0.0000 27.000 -4.0000 0.0000 1.2250 35.250  
 72.000 1200.0/

511968 'USRMDL' 'W1' 'GEWTPTU1' 104 0 2 10 3 3 0 0 .3000 150.00 25.000 3.0000 30.000 -4.0000 27.000 -  
 10.000 10.000 1.0000/

51196807 'VTGTPAT' 511968 511968 'W1' 0 1.15 0.1 0.08/

51196806 'VTGTPAT' 511968 511968 'W1' 0 1.1 1 0.08/

51196805 'VTGTPAT' 511968 511968 'W1' 0.75 5 1.9 0.08/

51196804 'VTGTPAT' 511968 511968 'W1' 0.5 5 1.2 0.08/

51196803 'VTGTPAT' 511968 511968 'W1' 0.3 5 0.7 0.08/

51196802 'VTGTPAT' 511968 511968 'W1' 0.15 5 0.2 0.08/

51196801 'FRQTPAT' 511968 511968 'W1' 56.5 62.5 1 0.08/

/

511968 'USRMDL' W2 'GEWTGCU1' 101 1 2 18 3 18 0 1.6000 0.80000 0.50000 0.90000  
 1.2200 1.2000 2.0000 0.40000 0.80000 10.000 0.20000E-01 0.0000 0.0000 0.50000  
 0.16700 0.90000 0.92500 0.0000 /

```
511968 'USRMDL' W2 'GEWTECU1' 102 0 9 67 18 16 511968 0 1 0 0 0 0
0 0.15000 18.000 5.0000 0.0000 0.0000 0.50000E-01 3.0000 0.60000 1.1200
0.40000E-01 0.43600 -0.43600 1.1200 0.20000E-01 0.45000 -0.45000 60.000
0.10000 0.90000 1.1000 40.000 0.50000 1.4500 0.50000E-01
0.50000E-01 1.0000 0.15000 0.96000 0.99600 1.0040 1.0400
1.0000 0.95000 0.95000 0.40000 1.0000 0.20000 1.0000
0.25000 -1.0000 14.0000 25.000 3.0000 -0.90000 8.0000 0.20000
10.000 1.0000 1.7000 1.1200 1.2500 5.0000 0.0000
0.0000 0.000 0.25000E-02 1.0000 5.5000 0.10000 -1.0000 0.10000
0.0000 0.10000 -0.10000 0.70000 0.12000 -0.12000 /
```

```
511968 'USRMDL' W2 'GEWT2MU1' 103 0 1 5 4 3 0 4.6300 0.0000 0.0000 1.8800
2.3000 /
```

```
511968 'USRMDL' 'W2' 'GEWTGDU1' 106 0 1 6 0 4 0 9999.0 5.0000 30.000 9999.0 9999.0 30.000/
```

```
511968 'USRMDL' 'W2' 'GEWTARU1' 105 0 1 9 1 4 0 20.000 0.0000 27.000 -4.0000 0.0000 1.2250
35.250 72.000 1200.0/
```

```
511968 'USRMDL' 'W2' 'GEWTPTU1' 104 0 2 10 3 3 0 0 0.30000 150.00 25.000 3.0000 30.000 -4.0000
27.000 -10.000 10.000 1.0000/
```

/

```
51196821 'VTGDCAT' 511968 511968 'W2' 0.15 5.0000 0.20 0.08/
```

```
51196822 'VTGDCAT' 511968 511968 'W2' 0.30 5.0000 0.70 0.08/
```

```
51196823 'VTGDCAT' 511968 511968 'W2' 0.50 5.0000 1.20 0.08/
```

```
51196824 'VTGDCAT' 511968 511968 'W2' 0.75 5.0000 1.90 0.08/
```

```
51196825 'VTGDCAT' 511968 511968 'W2' 0.00 1.1000 1.00 0.08/
```

```
51196826 'VTGDCAT' 511968 511968 'W2' 0.00 1.1500 0.10 0.08/
```

//Elk City II Energy Storage 100 MW

//PE VISMA User Defined Models

//Freq droop set to 5% with 36 mHz dbd and voltage droop set to 1.30% on 33.233 MVAR Qbase

//Bus 991544: 40 x PE FP4200 2.528 MW/ 3.78 MVA (BESS)

/

@!/------

```

//// PPC HEADER FOR WIND MECHANICAL MODEL
/ 1111 'USRMDL' 1 'PEPPC_VS0105t' 103 0 40 150 30 110

//// PPC HEADER FOR BUS OTHER MODEL
/ 1100 'USBUS' 'PEPPC_VS0105t' 504 0 40 150 30 110

//////// POWER ELECTRONICS POWER PLANT CONTROLLER
991544 'USRMDL' 1 'PEPPC_VS0105t' 103 0 40 150 30 110

@!/------ICONS-----

@!/ 1.Vmeas Bus 2.POI_From 3.POI_To 4.POI_identifier 5.POI_meas_direction 6.LDC 7.Fmeas bus
991541 991541 511541 1 0 0 991541

@!/ 8.PQ_Priority 9.PI_supervisor 10.# 11.#
0 1 0 0

@!/ 12.# 13.Pcmd_NC_FR_Open/Close 14.#
0 1 0

@!/ ----- OLTC compensation for LDC -----

@!/ 15.OLTC_from_bus 16.OLTC_to_bus 17.OLTC_circuit_ID
0 0 '1'

@!/

@!/ 18.# 19.FR P dir shift 20.# 21.#
0 1 0 0

@!/ 22.FR_enable 23.F_control_mode 24.FR_droop_mode 25.# 26.#
1 1 0 0 0

@!/ 27.# 28.# 29.# 30.#
0 0 0 0

@!/ 31.VRT_reference 32.enable_Q_fixed 33.Q_visma_mode
2 0 0

@!/ 34.Disaggregated 35.N_Bus_Ini 36.N_Bus_Fin 37.# 38.Inverter Machine ID

```

```

0      1111      1112      0  '1'

@!/> ----- ICONS for dyr compatibility with SSAT, not used in PSSE -----

@!/> 39.SSAT_remote_bus  40.#

101      0

@!/> -----

@!/> -----CONS-----

@!/> -----

@!/> ----- Q control loop -----

@!/> 1.Kpmin_q  2.Kpmax_q  3.Ti_q  4.Q_max  5.Q_min

0.10      0.10      0.20      0.871  -0.637

@!/> ----- VRS loop -----

@!/> 6.Kpmin_v  7.Kpmax_v  8.Ti_v  9.Vmax  10.Vmin

0.10      0.10      0.10      1.15  0.80

@!/> ----- Line Droop Compensation -----

@!/> 11.Vrated_idc 12.R_idc  13.L_idc  14.C_idc

230.0      0.00      0.000  0.000000

@!/> ----- P control loop -----

@!/> 15.Kpmin_p  16.Kpmax_p  17.Ti_p  18.PI_P_max  19.PI_P_min

0.5      0.5      0.30      0.669  -0.669

@!/> ----- Q droop for VRS -----

@!/> 20.Kdroop_Q 21.#  22.Tq_droop 23.#

0.0593      0.0      0.10      0.0

@!/> ----- POI Q limit control PI -----

@!/> 24.Kpmin_q_lim  25.Kpmax_q_lim  26.Ti_q_lim  27.Hyst_q_lim_exit

0.5      0.5      0.1      0.05

@!/> 28.Q_fixed_reference 29.#  30.#  31.#
    
```

```

0.0      0.0      0.0      0.0

@!/> 32.#      33.#

0.0      0.0

@!/> ----- Frequency Response -----

@!/> 34.Frated 35.fpp 36.droop_pp 37.fpn 38.droop_pn 39.dPlim

60.0      60.036 7.477 59.964 7.477 2.00

@!/> 40.fsp 41.droop_sp 42.fsn 43.droop_sn 44.ftp 45.ftn

64.522 7.477 55.478 7.477 65.0 55.0

@!/> 46.# 47.#

0.0 0.0

@!/> ----- PPC Freezing for LVRT/HVRT -----

@!/> 48.Vsat_lvrt 49.Hyst_lvrt 50.Vsat_ovrt 51.Hyst_ovrt

0.85 0.05 1.15 0.04

@!/> 52.Time_defreeze_P 53.Time_defreeze_Q

1.000 0.050

@!/> ----- Measurement and sending delays -----

@!/> 54.Tv 55.Tq 56.Tp 57.Tp_fr 58.Tf

0.020 0.020 0.020 1.000 0.159

@!/> 59.# 60.#

0.0 0.0

@!/> 61.Ts_cmnd 62.#

0.025 0.0

@!/> ----- S and P limits -----

@!/> 63.Splant 64.Pmax 65.Pmin 66.# 67.#

151.20 0.669 -0.669 0.0 0.0

@!/> ----- Ramp Rate Limiters -----

```

```

@!/> 68.Pramp_up_nc 69.Pramp_down_nc 70.Pramp_up_fr 71.Pramp_down_fr
      0.5      0.5      10.00      10.00

@!/> 72.Qramp_up 73.Qramp_down 74.# 75.#
      30.0      30.0      0.0      0.0

@!/> ----- CONS for dyr compatibility with SSAT, not used in PSSE -----

@!/> 76.slope_qv1 77.slope_qv2 78.# 79.# 80.#
      7.5      7.5      0.0      0.0      0.0

@!/> 81.# 82.# 83.# 84.# 85.#
      0.0      0.0      0.0      0.0      0.0

@!/> ----- Blank CON parameters, not used -----

@!/> 86.# 87.# 88.# 89.# 90.#
      0.0      0.0      0.0      0.0      0.0

@!/> 91.# 92.# 93.# 94.# 95.#
      0.0      0.0      0.0      0.0      0.0

@!/> 96.# 97.# 98.# 99.# 100.#
      0.0      0.0      0.0      0.0      0.0

@!/>-----

@!/>----- PPC AUXILIAR PARAMETERS: LEAVE AS DEFAULT -----
-----

@!/> 101.AUX1 102.AUX2 103.AUX3 104.AUX4 105.AUX5 106.AUX6 107.AUX7 108.AUX8
109.AUX9 110.AUX10
      0.0  0.0  0.00  2.00  0.0  0.0  0.0  1.00  0.00  0.00

@!/> 111.AUX11 112.AUX12 113.AUX13 114.AUX14 115.AUX15 116.AUX16 117.AUX17 118.AUX18
119.AUX19 120.AUX20
      1.00  5.00  0.00  0.00  8.50  500.0  0.00  0.00  0.00  0.0

@!/> 121.AUX21 122.AUX22 123.AUX23 124.AUX24 125.AUX25 126.AUX26 127.AUX27 128.AUX28
129.AUX29 130.AUX30
  
```

0.0 0.0 0.0 0.00 0.00 0.0 0.0 0.00 0.00 0.01

@!/ 131.AUX31 132.AUX32 133.AUX33 134.AUX34 135.AUX35 136.AUX36 137.AUX37 138.AUX38  
 139.AUX39 140.AUX40

0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.0 0.150 0.0003

@!/ 141.AUX41 142.AUX42 143.AUX43 144.AUX44 145.AUX45 146.AUX46 147.AUX47 148.AUX48  
 149.AUX49 150.AUX50

100.00 0.00 0.005 1.000 0.0 0.0 0.0 0.0 0.05 0.8/

@!/------

//////// ELECTRICAL INTERFACE WITH PSS/E GRID --- BESS 1 ---

991544 'USRMDL' 1 'PEGEN\_VS0105t' 101 1 5 50 40 260

@!/ 1.LV-Protections 2.HV-Protections 3.LF-Protections 4.HF-Protections 5.ROCOF\_Protection

11110 11110 10000 10000 0

@!/------

@!/ 1.lv1 2.t\_lv1 3.lv2 4.t\_lv2 5.lv3 6.t\_lv3 7.lv4 8.t\_lv4 9.lv5 10.t\_lv5

0.90 120.00 0.80 60.00 0.70 21.00 0.5 10.0 0.00 0.00

@!/ 11.hv1 12.t\_hv1 13.hv2 14.t\_hv2 15.hv3 16.t\_hv3 17.hv4 18.t\_hv4 19.hv5 20.t\_hv5

1.100 120.0 1.15 60.00 1.20 2.00 1.25 0.20 0.00 0.000

@!/ 21.lf1 22.t\_lf1 23.lf2 24.t\_lf2 25.lf3 26.t\_lf3 27.lf4 28.t\_lf4 29.lf5 30.t\_lf5

56.5 6.00 45.00 0.00 45.00 0.00 45.0 0.00 45.00 0.00

@!/ 31.hf1 32.t\_hf1 33.hf2 34.t\_hf2 35.hf3 36.t\_hf3 37.hf4 38.t\_hf4 39.hf5 40.t\_hf5

63.5 6.00 65.00 0.00 65.00 0.00 63.5 6.00 65.00 0.00

@!/ 41.Rf1 42.T\_Rf1 43.# 44.# 45.# 46.# 47.# 48.# 49.# 50.#

4.0 0.25 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0/

@!/------

//////// CONTROL MODEL --- BESS 1 ---

991544 'USRMDL' 1 'PECON\_VS0105t' 102 0 40 300 10 50

@!/------

@!/ ----- ICON parameters -----

@!/------

@!/------ Measurements -----

@!/ 1.# 2.From\_bus 3.To\_bus 4.Circuit ID 5.#

0 991544 991543 1 0

@!/  
 @!/------

@!/------ Operation modes -----

@!/ 6.Grid\_state 7.# 8.# 9.PPCon 10.#

1 0 0 1 0

@!/ 11.# 12.Qctrl\_mode\_nc 13.Qctrl\_mode\_LVRT 14.Qctrl\_mode\_OVRT

0 0 0 0

@!/  
 @!/------

@!/------ Grid Following (Current Source) LVRT/OVRT -----

@!/ 15.dV\_mode\_GFol

0

@!/ 16.LVRT\_mode 17.LVRT\_Gfol 18.# 19.OVRT\_mode 20.OVRT\_GFol

2 2 0 2 5

@!/  
 @!/------

@!/------ Current limits -----

@!/ 21.Idq\_prior\_LVRT 22.Idq\_prior\_OVRT 23.Idq\_prior\_NC 24.Id\_limit\_mode 25.#

0 0 0 0 0

@!/  
 @!/------

@!/------ LVRT VISMA -----

@!/ 26.LVRT\_enable\_Grid\_tied (ON/OFF) 27.LVRT\_enable\_offgrid (ON/OFF)

```

1          0
@!/
@!/------ OVRT VISMA -----
@!/  28.OVRT_enable_Grid_tied (ON/OFF) 29.OVRT_enable_offgrid (ON/OFF) 30.#
1          0          0
@!/
@!/------ LVRT/OVRT derivative mode -----
@!/  31.dV_LVRT_entry_mode 32.dV_OVRT_entry_mode 33.# 34.# 35.#
0          0          0  0  0
@!/------ ICONS for dyr compatibility with SSAT, not used in PSSE -----
@!/  36.SSAT_remote_bus 37.#
101        0
@!/------ Enabling fixed references -----
@!/  38.enable_P_fixed 39.enable_Q_fixed 40.enable_V_fixed
0          0          0
@!/
@!/------
@!/  ----- CON parameters -----
@!/------
@!/  1.Frated 2.# 3.# 4.# 5.#
60.0 0.0 0.0 0.0 0.0
@!/
@!/  ----- Swing equation parameters when Grid-tied (Grid state = 1) -----
@!/------
@!/  6.droop_fP 7.H 8.Kd 9.# 10.#
0.0 0.100 35.0 0.0 0.00

```

```

@! 11.#
    0.0
@!
@! ----- Current limits -----
@!-----
@! 12.Idq_limit1   13.Is_limit   14.#       15.#
    0.80           1.00         0.0        0.0
@!
@! ----- V/Q Droops (both Grid-tied and Off-grid) -----
@!-----
@! 16.droop_VQ     17.droop_QV
    0.0            0.0
@!
@! ----- Limits on inverter references -----
@!-----
@! 18.Fmax         19.Fmin         20.Kp_F_lim  21.Ti_F_lim
    1.10           0.90           1.0         0.1
@! 22.Pmax         23.Pmin         24.Qmax      25.Qmin
    0.669          -0.669         0.871      -0.637
@! 26.Vmax         27.Vmin         28.Kp_V_lim  29.Ti_V_lim
    1.17           0.80           1.0         0.1
@!
@! ----- Voltage control loop parameters when Grid-tied (grid_state=1)------
@!-----
@! 30.Kp_v         31.Ti_v         32.Kp_lq     33.Ti_lq
    0.3            0.03           0.10        0.05
    
```

```

@! 34.#      35.#
    0.0      0.0

@!

@! --- settings for LVRT/OVRT mode 1 (G.Fol) or 2 (VISMA dynamic currents) ---
@!-----
@! 36.Vth_lvrt  37.Klvrt   38.Hyst_lvrt  39.Vset_lvrt  40.#
    0.8         6.0     0.05         0.95         0.0

@! 41.Vth_ovrt  42.Kovrt   43.Hyst_ovrt  44.Vset_ovrt  45.#
    1.17        6.0     0.05         1.15         0.0

@!

@! ----- Ramp Rate Limiters for inverter references -----
@!-----
@! 46.Pramp_up  47.Pramp_down  48.Qramp_up  49.Qramp_down  50.Vramp_up
    5.0         5.0     30.0         30.0         2.0

@! 51.Vramp_down  52.#      53.#      54.#      55.#
    2.0         0.0     0.0         0.0         0.0

@! 56.#      57.#      58.#      59.#      60.#
    0.0         0.0     0.0         0.0         0.0

@!

@! --- LVRT/OVRT thresholds in LVRT/OVRT mode 0 (VISMA with fixed currents) ---
@!-----
@! 61.Vlvrt_vs  62.Hyst_lvrt_vs
    0.83        0.07

@! 63.Vhvrt_vs  64.Hyst_hvrt_vs
    1.17        0.10

@! 65.#      66.#
    
```

```

0.0      0.0

@!/

@!/ ----- LVRT and OVRT deactivation delays -----
@!/-----
@!/ 67.LVRT_exit_delay 68.OVRT_exit_delay
0.0      0.0

@!/

@!/ ----- LVRT/OVRT derivative mode (LVRT/OVRT entry by dV) -----
@!/-----
@!/ 69.dV_LVRT_entry_threshold 70.dV_OVRT_entry_threshold
0.05      -0.05

@!/

@!/ ----- Swing Equation parameters when Off-grid (Grid_state=0) -----
@!/-----
@!/ 71.H_offgrid 72.Kd_offgrid 73.droop_Pf 74.Kp_fr 75.Ti_fr
0.1      50.0      0.0      2.0      0.004

@!/

@!/ ----- Voltage control loop parameters when Off-grid mode (grid_state=0)-----
@!/-----
@!/ 76.Kp_v_offgrid 77.Ti_v_offgrid 78.Kp_lq_offgrid 79.Ti_lq_offgrid 80.#
1.0      1.0      0.10      0.05      0.0

@!/

@!/ ----- Fixed references (if enabled) -----
@!/ 81.P_fixed_reference 82.Q_fixed_reference 83.V_fixed_reference
0.0      0.0      0.0

@!/

```

@!/------ Blank parameters -----

@!/ 84.# 85.# 86.# 87.# 88.# 89.# 90.#  
 0.0 0.0 0.0 0.0 0.0 0.0 0.0

@!/ 91.# 92.# 93.# 94.# 95.# 96.# 97.# 98.# 99.# 100.#  
 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

@!/------ Internal parameters (leave as default) -----  
 --

@!/ 101.AUX1 102.AUX2 103.AUX3 104.AUX4 105.AUX5 106.AUX6 107.AUX7 108.AUX8  
 109.AUX9 110.AUX10  
 0.00 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

@!/ 111.AUX11 112.AUX12 113.AUX13 114.AUX14 115.AUX15 116.AUX16 117.AUX17 118.AUX18  
 119.AUX19 120.AUX20  
 0.00 0.00 0.00 0.00 8.50 991544.0 0.0 0.060 0.0 0.0

@!/ 121.AUX21 122.AUX22 123.AUX23 124.AUX24 125.AUX25 126.AUX26 127.AUX27 128.AUX28  
 129.AUX29 130.AUX30  
 0.008 0.0 0.003 0.005 0.0 0.0 3.0 0.318 0.0 0.0059

@!/ 131.AUX31 132.AUX32 133.AUX33 134.AUX34 135.AUX35 136.AUX36 137.AUX37 138.AUX38  
 139.AUX39 140.AUX40  
 1.00 0.0 0.00 0.10 3.00 0.0 0.0 0.0 1.85 0.015

@!/ 141.AUX41 142.AUX42 143.AUX43 144.AUX44 145.AUX45 146.AUX46 147.AUX47 148.AUX48  
 149.AUX49 150.AUX50  
 0.00 0.003 0.0 0.500 0.00 0.000 0.000 0.00 0.0 0.0059

@!/ 151.AUX51 152.AUX52 153.AUX53 154.AUX54 155.AUX55 156.AUX56 157.AUX57 158.AUX58  
 159.AUX59 160.AUX60  
 0.000 0.100 100.0 991544.0 10.0 0.0 0.02 3.0 1.5 100.0

@!/ 161.AUX61 162.AUX62 163.AUX63 164.AUX64 165.AUX65 166.AUX66 167.AUX67 168.AUX68  
 169.AUX69 170.AUX70  
 0.030 0.000 0.000 0.000 150.0 0.0 0.0 0.008 0.020 0.010

@!/ 171.AUX71 172.AUX72 173.AUX73 174.AUX74 175.AUX75 176.AUX76 177.AUX77 178.AUX78  
 179.AUX79 180.AUX80

0.020 0.100 0.800 1.00 0.0 0.00 0.100 1.00 1.00 0.00

@!/ 181.AUX81 182.AUX82 183.AUX83 184.AUX84 185.AUX85 186.AUX86 187.AUX87 188.AUX88  
 189.AUX89 190.AUX90

0.80 0.30 100.00 0.00 50.0 0.0001 0.025 0.85 0.85 0.0

@!/ 191.AUX91 192.AUX92 193.AUX93 194.AUX94 195.AUX95 196.AUX96 197.AUX97 198.AUX98  
 199.AUX99 200.AUX100

1.000 0.008 0.0 0.0 0.0 1.0 0.008 0.0 0.0 0.0

@!/ 201.AUX101 202.AUX102 203.AUX103 204.AUX104 205.AUX105 206.AUX106 207.AUX107  
 208.AUX108 209.AUX109 210.AUX110

0.0 0.0 0.000 0.985 0.0 0.0 2.0 0.0 0.00 0.080

@!/ 211.AUX111 212.AUX112 213.AUX113 214.AUX114 215.AUX115 216.AUX116 217.AUX117  
 218.AUX118 219.AUX119 220.AUX120

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0

@!/ 221.AUX121 222.AUX122 223.AUX123 224.AUX124 225.AUX125 226.AUX126 227.AUX127  
 228.AUX128 229.AUX129 230.AUX130

1.0 0.0 0.0 0.4828125 0.020 0.05 0.100 1.5 0.05 0.200

@!/ 231.AUX131 232.AUX132 233.AUX133 234.AUX134 235.AUX135 236.AUX136 237.AUX137  
 238.AUX138 239.AUX139 240.AUX140

0.0 0.8 0.2 1.0 0.0 0.00 0.00 0.0 0.0 0.0

@!/ 241.AUX141 242.AUX142 243.AUX143 244.AUX144 245.AUX145 246.AUX146 247.AUX147  
 248.AUX148 249.AUX149 250.AUX150

0.0 0.015 0.015 0.0 1.0 1.0 0.0 0.080 0.0 0.0

@!/ 251.AUX151 252.AUX152 253.AUX153 254.AUX154 255.AUX155 256.AUX156 257.AUX157  
 258.AUX158 259.AUX159 260.AUX160

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

@!/ 261.AUX161 262.AUX162 263.AUX163 264.AUX164 265.AUX165 266.AUX166 267.AUX167  
 268.AUX168 269.AUX169 270.AUX170

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

@!/ 271.AUX171 272.AUX172 273.AUX173 274.AUX174 275.AUX175 276.AUX176 277.AUX177  
 278.AUX178 279.AUX179 270.AUX170

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

@!/ 281.AUX181 282.AUX182 283.AUX183 284.AUX184 285.AUX185 286.AUX186 287.AUX187  
288.AUX188 289.AUX189 290.AUX190

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

@!/ 291.AUX191 292.AUX192 293.AUX193 294.AUX194 295.AUX195 296.AUX196 297.AUX197  
298.AUX198 299.AUX199 300.AUX200

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0/

@!/------

# APPENDIX B: GEN-2026-SR3 SHORT CIRCUIT RESULTS

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GROUP	BUS NUMBER	BUS NAME	BUS VOLTAGE (KV)	REQUEST NOT IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	REQUEST IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	CHANGE IN FAULT CURRENT (KA)
04 SOUTHEAST	511409	TREASILD7	345	17.3533	17.3727	0.0194
04 SOUTHEAST	511446	CL-AFTP4	138	6.8361	6.8598	0.0237
04 SOUTHEAST	511458	ELKCTY-4	138	12.1202	12.2457	0.1255
04 SOUTHEAST	511459	ELKCTY-2	69	7.3684	7.3877	0.0193
04 SOUTHEAST	511463	HOB-JCT4	138	7.2236	7.2328	0.0092
04 SOUTHEAST	511484	CLINTJC2	69	6.279	6.2836	0.0046
04 SOUTHEAST	511485	CLINTJC4	138	6.9029	6.9149	0.012
04 SOUTHEAST	511490	ELKCITY6	230	7.9245	8.0866	0.1621
04 SOUTHEAST	511504	SAYRE--4	138	4.4053	4.4198	0.0145
04 SOUTHEAST	511511	FALCNRD4	138	8.3689	8.427	0.0581
04 SOUTHEAST	511531	HAMJCT 2	69	1.8756	1.8767	0.0011
04 SOUTHEAST	511533	CLIN-NG4	138	5.9033	5.9097	0.0064
04 SOUTHEAST	511534	CL-NGTP4	138	6.2119	6.2189	0.007
04 SOUTHEAST	511535	CLIN-AF4	138	5.1458	5.1591	0.0133
04 SOUTHEAST	511541	SWEETWT6	230	9.552	10.748	1.196
04 SOUTHEAST	511542	BUFFCK6	230	6.876	7.4569	0.5809
04 SOUTHEAST	511544	DEMPSEY6	230	5.4813	5.8334	0.3521
04 SOUTHEAST	511553	CHISHOLM7	345	14.0639	14.3856	0.3217
04 SOUTHEAST	511554	RKY_RDG4	138	5.5915	5.5966	0.0051
04 SOUTHEAST	511557	CHISHOLM6	230	13.2703	14.0573	0.787
04 SOUTHEAST	514801	MINCO 7	345	24.5995	24.6154	0.0159
04 SOUTHEAST	515375	WWRDEHV7	345	22.5627	22.6072	0.0445

GROUP	BUS NUMBER	BUS NAME	BUS VOLTAGE (KV)	REQUEST NOT IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	REQUEST IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	CHANGE IN FAULT CURRENT (KA)
04 SOUTHEAST	515376	WWRDEHV4	138	26.138	26.1562	0.0182
04 SOUTHEAST	515394	KEENAN 4	138	9.377	9.3791	0.0021
04 SOUTHEAST	515398	OUSPRT 4	138	10.0635	10.066	0.0025
04 SOUTHEAST	515407	TATONGA7	345	18.8497	18.863	0.0133
04 SOUTHEAST	515444	MCNOWND7	345	24.4959	24.5117	0.0158
04 SOUTHEAST	515448	CRSRDSW7	345	12.9468	12.9529	0.0061
04 SOUTHEAST	515458	BORDER 7	345	11.6435	11.825	0.1815
04 SOUTHEAST	515549	MNCWND37	345	15.2457	15.2514	0.0057
04 SOUTHEAST	515582	SLNGWND7	345	8.9793	8.9822	0.0029
04 SOUTHEAST	515585	MAMTHPW7	345	14.7169	14.7248	0.0079
04 SOUTHEAST	515800	GRACMNT7	345	20.6079	20.6425	0.0346
04 SOUTHEAST	515802	GRACMNT4	138	34.7492	34.7652	0.016
04 SOUTHEAST	515825	GRTWSRN7	345	10.0457	10.0536	0.0079
04 SOUTHEAST	515852	DGRASSE7	345	15.0712	15.0808	0.0096
04 SOUTHEAST	515939	MNCWND47	345	10.8606	10.8633	0.0027
04 SOUTHEAST	515951	PERSIMN7	345	12.0991	12.111	0.0119
04 SOUTHEAST	515961	GUTHRIE7	345	13.8483	13.864	0.0157
04 SOUTHEAST	515980	MNCWND57	345	7.9633	7.9647	0.0014
04 SOUTHEAST	516059	BECKHAM7	345	14.1404	14.4539	0.3135
04 SOUTHEAST	516146	25MILE 7	345	10.7685	10.7773	0.0088
04 SOUTHEAST	516159	25MILZ 7	345	10.756	10.7647	0.0087
04 SOUTHEAST	520459	CUSTER 4	138	5.7025	5.7165	0.014
04 SOUTHEAST	520856	CLINTON4	138	5.5057	5.512	0.0063
04 SOUTHEAST	520897	ELKCITY2	69	6.2676	6.2808	0.0132
04 SOUTHEAST	521116	REDHLSW4	138	7.5347	7.5661	0.0314
04 SOUTHEAST	521117	RHWIND 4	138	6.4444	6.4656	0.0212

GROUP	BUS NUMBER	BUS NAME	BUS VOLTAGE (KV)	REQUEST NOT IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	REQUEST IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	CHANGE IN FAULT CURRENT (KA)
04 SOUTHEAST	523097	HITCHLAND 7	345	12.0631	12.0722	0.0091
04 SOUTHEAST	523101	NOBLE_WND 7	345	12.0233	12.0324	0.0091
04 SOUTHEAST	523103	NOBLE_WND 3	115	9.3087	9.3105	0.0018
04 SOUTHEAST	523111	NOVUS1 3	115	6.6061	6.607	0.0009
04 SOUTHEAST	523112	NOVUS1 7	345	11.8586	11.8674	0.0088
04 SOUTHEAST	523130	GRPLNS-HV4-3	115	6.3569	6.3577	0.0008
04 SOUTHEAST	523131	GRPLNS-HV2-3	115	8.5326	8.5341	0.0015
04 SOUTHEAST	523215	GEN-2011-022	345	8.4965	8.501	0.0045
04 SOUTHEAST	523551	HUTCHISON 6	230	7.4487	7.4536	0.0049
04 SOUTHEAST	523586	NP-BRSMDWTP2	69	1.3093	1.3121	0.0028
04 SOUTHEAST	523591	BUFFALO_TP 2	69	1.3502	1.3532	0.003
04 SOUTHEAST	523593	BUFFALO 2	69	1.1731	1.1753	0.0022
04 SOUTHEAST	523748	BOWERS 3	115	7.0484	7.1078	0.0594
04 SOUTHEAST	523770	GRAPEVINE 3	115	8.1577	8.2347	0.077
04 SOUTHEAST	523771	GRAPEVINE 6	230	6.0718	6.1767	0.1049
04 SOUTHEAST	523772	COBRN_CREEK3	115	3.7325	3.7792	0.0467
04 SOUTHEAST	523776	WHEELER 3	115	6.9003	7.0617	0.1614
04 SOUTHEAST	523777	WHEELER 6	230	6.5593	6.9027	0.3434
04 SOUTHEAST	523779	STLN-DEMARC6	230	8.2808	9.0676	0.7868
04 SOUTHEAST	523782	MAGIC_CITY 2	69	3.2519	3.2703	0.0184
04 SOUTHEAST	523789	GB-WHEELER 2	69	4.7007	4.7393	0.0386
04 SOUTHEAST	523796	HOWARD 2	69	5.0587	5.1034	0.0447
04 SOUTHEAST	523797	HOWARD 3	115	5.3028	5.3852	0.0824
04 SOUTHEAST	523959	POTTER_CO 6	230	23.9603	24.0146	0.0543
04 SOUTHEAST	523961	POTTER_CO 7	345	13.6281	13.659	0.0309
04 SOUTHEAST	523977	HARRNG_WST 6	230	27.8193	27.8944	0.0751

GROUP	BUS NUMBER	BUS NAME	BUS VOLTAGE (KV)	REQUEST NOT IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	REQUEST IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	CHANGE IN FAULT CURRENT (KA)
04 SOUTHEAST	523978	HARRNG_MID 6	230	27.8193	27.8944	0.0751
04 SOUTHEAST	524016	ASARCO 3	115	27.1345	27.1709	0.0364
04 SOUTHEAST	524043	NICHOLS 3	115	31.2263	31.2754	0.0491
04 SOUTHEAST	524044	NICHOLS 6	230	26.8898	26.9645	0.0747
04 SOUTHEAST	524088	KIRBY 3	115	5.6483	5.672	0.0237
04 SOUTHEAST	524296	SPNSPUR_WND7	345	5.4704	5.475	0.0046
04 SOUTHEAST	524299	SPNSPUR_COL7	345	5.4704	5.475	0.0046
04 SOUTHEAST	524415	AMA_SOUTH 6	230	14.0743	14.092	0.0177
04 SOUTHEAST	525549	TOLK 7	345	14.2091	14.2143	0.0052
04 SOUTHEAST	525832	TUCO_INT 7	345	13.7554	13.7779	0.0225
04 SOUTHEAST	525850	ELK_CT1	345	13.6377	13.6598	0.0221
04 SOUTHEAST	560071	G16-003-TAP	345	15.773	15.7922	0.0192
04 SOUTHEAST	560078	G16-037-TAP	345	10.8034	10.8751	0.0717
04 SOUTHEAST	560577	G06-44	115	6.6061	6.607	0.0009
04 SOUTHEAST	576395	GEN-2010-014	345	8.4965	8.501	0.0045
04 SOUTHEAST	576397	G10014G11022	345	8.4965	8.501	0.0045
04 SOUTHEAST	585440	PRSIMN_CRK2	345	11.0577	11.0676	0.0099
04 SOUTHEAST	587230	GEN-2016-037	345	10.286	10.3505	0.0645
04 SOUTHEAST	587740	GEN-2016-091	345	11.7752	11.7838	0.0086
04 SOUTHEAST	587770	GEN-2016-095	345	12.092	12.1012	0.0092
04 SOUTHEAST	588560	GEN-2017-011	345	12.7274	12.7399	0.0125
04 SOUTHEAST	761229	GEN-2017-150	345	23.7363	23.751	0.0147
04 SOUTHEAST	761250	GEN-2017-233	345	23.7832	23.798	0.0148
04 SOUTHEAST	762216	G17-151TAP	345	9.4249	9.4428	0.0179
04 SOUTHEAST	762217	GEN-2017-151	345	6.4562	6.4646	0.0084
04 SOUTHEAST	763527	GEN-2019-012	345	19.6497	19.6832	0.0335

GROUP	BUS NUMBER	BUS NAME	BUS VOLTAGE (KV)	REQUEST NOT IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	REQUEST IN SERVICE 25SP FAULT CURRENT 3-PHASE (KA)	CHANGE IN FAULT CURRENT (KA)
04 SOUTHEAST	765440	GEN-2021-015	345	15.7724	15.7916	0.0192
04 SOUTHEAST	767221	GEN-2022-012	345	22.2199	22.263	0.0431
04 SOUTHEAST	767301	GEN-2022-016	345	22.241	22.2842	0.0432
04 SOUTHEAST	767321	GEN-2022-017	345	21.9111	21.953	0.0419
04 SOUTHEAST	769921	GEN-2022-147	345	13.6077	13.6297	0.022

# APPENDIX C: SPP DISTURBANCE PERFORMANCE REQUIREMENTS

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## Revision History

Version Number	Author	Change Description	Comments
1.0 (1/13/2013)	Transient Stability Task Force	First draft	TWG approval of Rotor Angle Damping
1.1 (7/31/2013)	Transmission Working Group	Approval of entire document	Approval of both Rotor Angle Damping and Transient Voltage requirements and addressed items regarding SPPR figure.
2.0 (12/15/2015)	Transmission Working Group	Revision to Transient Voltage Requirements	Addition of 2.5 seconds delay of looking at voltage being above 0.7 p.u.
3.0 (7/21/2016)	Dynamic Load Task Force	Revision to Rotor Angle Damping Requirements	Edited verbiage to clarify rotor angle requirements.

## Southwest Power Pool Disturbance Performance Requirements

### OVERVIEW

These Disturbance Performance Requirements (“Requirements”) shall be applicable to the Bulk Electric System within the Southwest Power Pool Planning Area. Utilization of these Requirements applies to all registered entities within the Southwest Power Pool Planning Area. These Requirements shall not be applicable to facilities that are not part of Bulk Electric System. More stringent Requirements are at the sole discretion of each Transmission Planner.

Transient and dynamic stability assessments are generally performed to assure adequate avoidance of loss of generator synchronism and prevention of system voltage collapse within the first 20 seconds after a system disturbance. These Requirements provide a basis for evaluating the system response during the initial transient period following a disturbance on the Bulk Electric System by establishing minimum requirements for machine rotor angle damping and transient voltage recovery.

### ROTOR ANGLE DAMPING REQUIREMENT

Machine Rotor Angles shall exhibit well damped angular oscillations following a disturbance on the Bulk Electric System for all NERC TPL-001-4 P1 through P7 events.

Machines with rotor angle deviations greater than or equal to 16 degrees (measured as absolute maximum peak to absolute minimum peak) shall be evaluated against SPPR1 or SPPR5 requirements below. Machines with rotor angle deviations less than 16 degrees which do not exhibit convergence shall be evaluated on an individual basis. Rotor angle deviations will be calculated relative to the system swing machine.

Well damped angular oscillations shall meet one of the following two requirements when calculated directly from the rotor angle:

1. Successive Positive Peak Ratio One (SPPR1) must be less than or equal to 0.95 where SPPR1 is calculated as follows:

$$SPPR1 = \frac{\text{Peak Rotor Angle of 2nd Positive Peak minus Minimum Value}}{\text{Peak Rotor Angle of 1st Positive Peak minus Minimum Value}} \leq 0.95$$

-or-  $\text{Damping Factor \%} = (1 - SPPR1) \times 100\% \geq 5\%$

The machine rotor angle damping ratio may be determined by appropriate modal analysis (i.e. Prony Analysis) where the following equivalent requirement must be met:

$$\text{Damping Ratio} \geq 0.0081633$$

2. Successive Positive Peak Ratio Five (SPPR5) must be less than or equal to 0.774 where SPPR5 is calculated as follows:

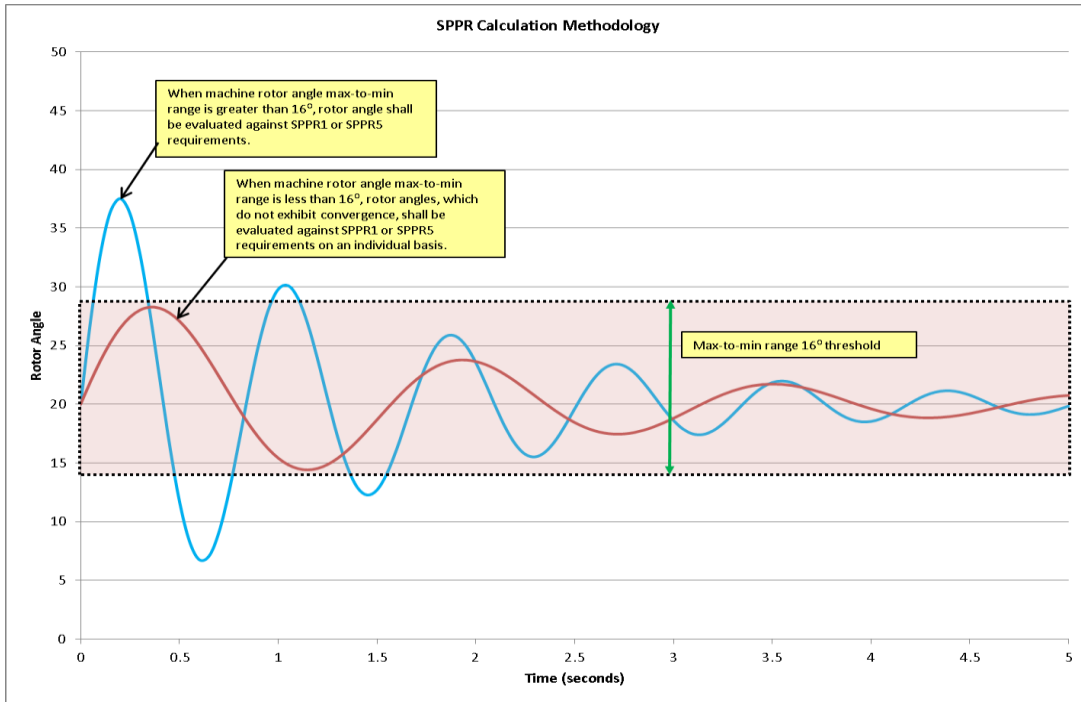
$$\text{SPPR5} = \frac{\text{Peak Rotor Angle of 6th Positive Peak minus Minimum Value}}{\text{Peak Rotor Angle of 1st Positive Peak minus Minimum Value}} \leq 0.774$$

-or- Damping Factor % =  $(1 - \text{SPPR5}) \times 100\% \geq 22.6\%$

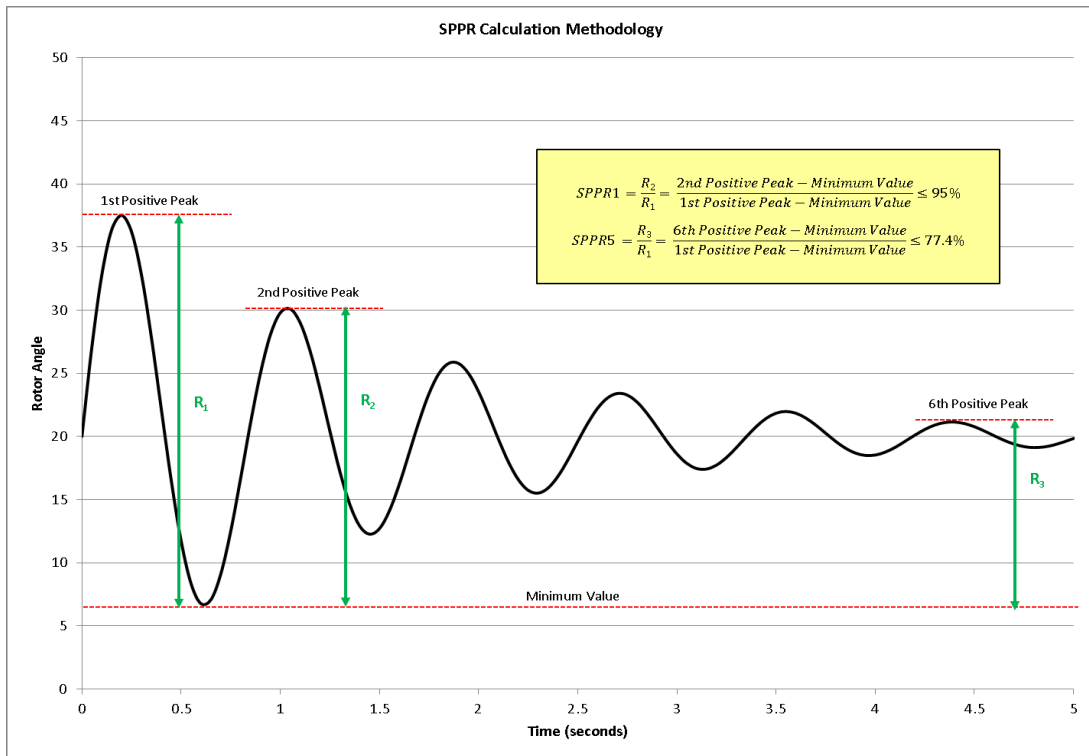
The machine rotor angle damping ratio may be determined by appropriate modal analysis (i.e. Prony Analysis) where the following equivalent requirement must be met:

$$\text{Damping Ratio} \geq 0.0081633$$

Qualitatively, these Requirements are shown in Figure 1 & 2 below.



**Figure 1. Applicability of 16 Degree Threshold**

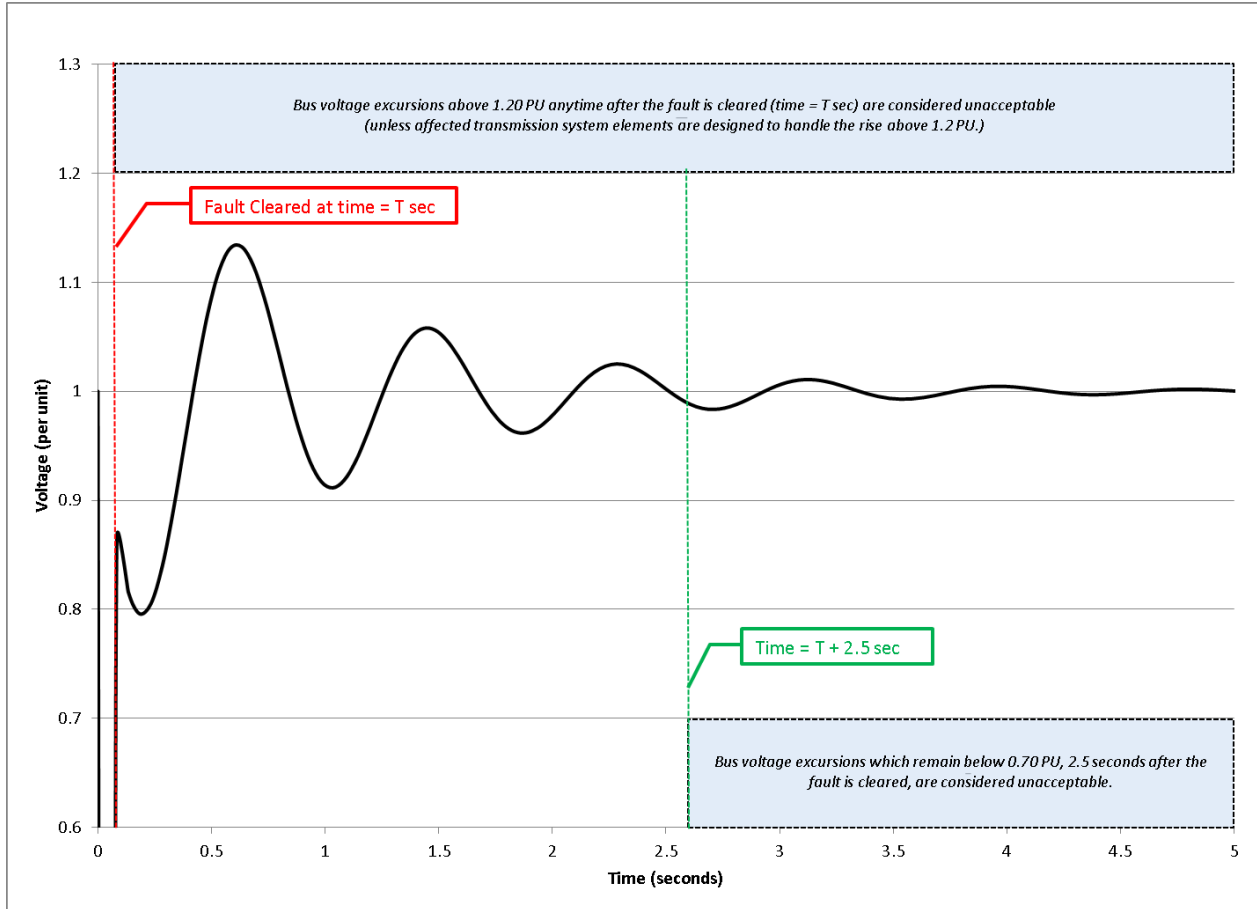


**Figure 2. SPPR1 and SPPR5 Calculations**

### TRANSIENT VOLTAGE RECOVERY REQUIREMENT

Bus voltages on the Bulk Electric System shall recover above 0.70 per unit, 2.5 seconds after the fault is cleared. Bus voltages shall not swing above 1.20 per unit after the fault is cleared, unless affected transmission system elements are designed to handle the rise above 1.2 per unit.

Qualitatively, this Requirement is shown in Figure 3 below.



**Figure 3. Transient Voltage Recovery Requirement**

# APPENDIX D: FAULT DEFINITIONS

**Table D-1: Stability Analysis Contingency Definitions**

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_001	P1	<p>3 Phase fault on GRAPEVINE 3115.00 (523770) 115 kV Bus</p> <p>a. Apply fault at the GRAPEVINE 3115.00 (523770) 115 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p style="padding-left: 20px;">b.1. GRAPEVINE 3 (523770) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_002	P1	<p>3 Phase fault on BOWERS 3115.00 (523748) 115 kV Bus</p> <p>a. Apply fault at the BOWERS 3115.00 (523748) 115 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p style="padding-left: 20px;">b.1. BOWERS 3 (523748) 115.0 kV to GRAPEVINE 3 (523770) 115.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_003	P1	<p>3 Phase fault on WHEELER 3115.00 (523776) 115 kV Bus</p> <p>a. Apply fault at the WHEELER 3115.00 (523776) 115 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p style="padding-left: 20px;">b.1. WHEELER 3 (523776) 115.0 kV to HOWARD 3 (523797) 115.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_004	P1	<p>3 Phase fault on BOWERS 3115.00 (523748) 115 kV Bus</p> <p>a. Apply fault at the BOWERS 3115.00 (523748) 115 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p style="padding-left: 20px;">b.1. BOWERS 3 (523748) 115.0 kV to HOWARD 3 (523797) 115.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_005	P1	3 Phase fault on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. ELKCTY-4 (511458) 138.0 kV to CLINTJC4 (511485) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_006	P1	3 Phase fault on CL-AFTP4 138.00 (511446) 138 kV Bus a. Apply fault at the CL-AFTP4 138.00 (511446) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. CL-AFTP4 (511446) 138.0 kV to HOB-JCT4 (511463) 138.0 kV Transmission Circuit #1 b.2. CL-AFTP4 (511446) 138.0 kV to ELKCTY-4 (511458) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_007	P1	3 Phase fault on WOODWRD4 138.00 (514785) 138 kV Bus a. Apply fault at the WOODWRD4 138.00 (514785) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. WOODWRD4 (514785) 138.0 kV to CENT 4 (515363) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_008	P1	3 Phase fault on WWRDEHV4 138.00 (515376) 138 kV Bus a. Apply fault at the WWRDEHV4 138.00 (515376) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. WWRDEHV4 (515376) 138.0 kV to OUSPRT 4 (515398) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_009	P1	3 Phase fault on WWRDEHV4 138.00 (515376) 138 kV Bus a. Apply fault at the WWRDEHV4 138.00 (515376) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. WWRDEHV4 (515376) 138.0 kV to WWDPST 4 (515425) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault



FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_010	P1	<p>3 Phase fault on WWRDEHV4 138.00 (515376) 138 kV Bus</p> <p>a. Apply fault at the WWRDEHV4 138.00 (515376) 138 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p style="padding-left: 20px;">b.1. WWRDEHV4 (515376) 138.0 kV to KEENAN 4 (515394) 138.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_011	P1	<p>3 Phase fault on WOODWRD4 138.00 (514785) 138 kV Bus</p> <p>a. Apply fault at the WOODWRD4 138.00 (514785) 138 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p style="padding-left: 20px;">b.1. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_012	P1	<p>3 Phase fault on REDCLFT4 138.00 (515533) 138 kV Bus</p> <p>a. Apply fault at the REDCLFT4 138.00 (515533) 138 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p style="padding-left: 20px;">b.1. DEWEY 4 (514787) 138.0 kV to REDCLFT4 (515533) 138.0 kV Transmission Circuit #1</p> <p style="padding-left: 20px;">b.2. REDCLFT4 (515533) 138.0 kV to REDCLF 4 (515863) 138.0 kV Transmission Circuit #1</p> <p style="padding-left: 20px;">b.3. IODINE-4 (514796) 138.0 kV to REDCLFT4 (515533) 138.0 kV Transmission Circuit #1</p> <p style="padding-left: 20px;">b.4. IODINE-4 (514796) 138.0 kV to WWRDEHV4 (515376) 138.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_013	P1	<p>3 Phase fault on ERICK 4 138.00 (520903) 138 kV Bus</p> <p>a. Apply fault at the ERICK 4 138.00 (520903) 138 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p style="padding-left: 20px;">b.1. SAYRE--4 (511504) 138.0 kV to ERICK 4 (520903) 138.0 kV Transmission Circuit #1</p> <p style="padding-left: 20px;">b.2. BULOJ4 (520402) 138.0 kV to ERICK 4 (520903) 138.0 kV Transmission Circuit #1</p> <p style="padding-left: 20px;">b.3. ELKCTY-4 (511458) 138.0 kV to FALCNRD4 (511511) 138.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_014	P1	3 Phase fault on WINDFRM4 138.00 (515785) 138 kV Bus a. Apply fault at the WINDFRM4 138.00 (515785) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. WINDFRM4 (515785) 138.0 kV to MOORLND4 (520999) 138.0 kV Transmission Circuit #1 b.2. WINDFRM4 (515785) 138.0 kV to FPLWIND4 (515786) 138.0 kV Transmission Circuit #1 b.3. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_015	P1	3 Phase fault on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. ELKCTY-4 (511458) 138.0 kV to REDHLSW4 (521116) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_016	P1	3 Phase fault on FALCNRD4 138.00 (511511) 138 kV Bus a. Apply fault at the FALCNRD4 138.00 (511511) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. ELKCTY-4 (511458) 138.0 kV to FALCNRD4 (511511) 138.0 kV Transmission Circuit #1 b.2. SAYRE--4 (511504) 138.0 kV to FALCNRD4 (511511) 138.0 kV Transmission Circuit #1 b.3. SAYRE--4 (511504) 138.0 kV to ERICK 4 (520903) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_017	P1	3 Phase fault on ELKCITY6 230.00 (511490) 230 kV Bus a. Apply fault at the ELKCITY6 230.00 (511490) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. ELKCITY6 (511490) 230.0 kV to CHISHOLM6 (511557) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_018	P1	3 Phase fault on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. SWEETWT6 (511541) 230.0 kV to BUFFCK6 (511542) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_019	P1	3 Phase fault on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. SWEETWT6 (511541) 230.0 kV to CHISHOLM6 (511557) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_020	P1	3 Phase fault on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. SWEETWT6 (511541) 230.0 kV to DEMPSEY6 (511544) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_021	P1	3 Phase fault on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. SWEETWT6 (511541) 230.0 kV to None Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_022	P1	3 Phase fault on STLN-DEMAR6230.00 (523779) 230 kV Bus a. Apply fault at the STLN-DEMAR6230.00 (523779) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. SWEETWT6 (511541) 230.0 kV to STLN-DEMAR6 (523779) 230.0 kV Transmission Circuit #1 b.2. WHEELER 6 (523777) 230.0 kV to STLN-DEMAR6 (523779) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_023	P1	3 Phase fault on EAST_PLANT 6230.00 (524163) 230 kV Bus a. Apply fault at the EAST_PLANT 6230.00 (524163) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. EAST_PLANT 6 (524163) 230.0 kV to EAST_PLANT 3 (524162) 115.0 kV to EPLANT_TR3 1 (524160) 13.2 kV Three Winding #1 b.4. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1
GROUP5_P1_LOCAL_FAULT_024	P1	3 Phase fault on XIT_INTG 6230.00 (523221) 230 kV Bus a. Apply fault at the XIT_INTG 6230.00 (523221) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. XIT_INTG 6 (523221) 230.0 kV to XIT_INTG 3 (523220) 115.0 kV to XIT_INTG TR1 (523219) 13.2 kV Three Winding #1 b.4. XIT_INTG 6 (523221) 230.0 kV to CHAN+TASCOS6 (523869) 230.0 kV Transmission Circuit #1
GROUP5_P1_LOCAL_FAULT_025	P1	3 Phase fault on TREASILD7 (511409) 345 kV Bus a. Apply fault at the TREASILD7 (511409) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TREASILD7 (511409) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_026	P1	3 Phase fault on MINCO 7 345.00 (514801) 345 kV Bus a. Apply fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. MINCO 7 (514801) 345.0 kV to CIMARON7 (514901) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_027	P1	3 Phase fault on MINCO 7 345.00 (514801) 345 kV Bus a. Apply fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. MINCO 7 (514801) 345.0 kV to NORMHLL7 (516096) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_028	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to TATONGA7 (515407) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_029	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to TATONGA7 (515407) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_030	P1	3 Phase fault on TATONGA7 345.00 (515407) 345 kV Bus a. Apply fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TATONGA7 (515407) 345.0 kV to CRSRDSW7 (515448) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_031	P1	3 Phase fault on MINCO 7 345.00 (514801) 345 kV Bus a. Apply fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. MINCO 7 (514801) 345.0 kV to MCNOWND7 (515444) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_032	P1	3 Phase fault on MINCO 7 345.00 (514801) 345 kV Bus a. Apply fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. MINCO 7 (514801) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_033	P1	3 Phase fault on MINCO 7 345.00 (514801) 345 kV Bus a. Apply fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. MINCO 7 (514801) 345.0 kV to MNCWND37 (515549) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_034	P1	3 Phase fault on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BVRCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_035	P1	3 Phase fault on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BVRCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_036	P1	3 Phase fault on BADGER 7 345.00 (515677) 345 kV Bus a. Apply fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BADGER 7 (515677) 345.0 kV to BLUWND 7 (515686) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_037	P1	3 Phase fault on BORDER 7345.00 (515458) 345 kV Bus a. Apply fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BORDER 7 (515458) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault



FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_038	P1	3 Phase fault on TATONGA7 345.00 (515407) 345 kV Bus a. Apply fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TATONGA7 (515407) 345.0 kV to MATHWSN7 (515497) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_039	P1	3 Phase fault on TATONGA7 345.00 (515407) 345 kV Bus a. Apply fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TATONGA7 (515407) 345.0 kV to MATHWSN7 (515497) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_040	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_041	P1	3 Phase fault on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BVRCNTY7 (515554) 345.0 kV to BALKOW 7 (515618) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_042	P1	3 Phase fault on TATONGA7 345.00 (515407) 345 kV Bus a. Apply fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TATONGA7 (515407) 345.0 kV to MAMTHPW7 (515585) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_043	P1	3 Phase fault on TATONGA7 345.00 (515407) 345 kV Bus a. Apply fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TATONGA7 (515407) 345.0 kV to SLNGWND7 (515582) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_044	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to GUTHRIE7 (515961) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_045	P1	3 Phase fault on GRTWSRN7 345.00 (515825) 345 kV Bus a. Apply fault at the GRTWSRN7 345.00 (515825) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. GRTWSRN7 (515825) 345.0 kV to GUTHRIE7 (515961) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_046	P1	3 Phase fault on PERSIMN7 345.00 (515951) 345 kV Bus a. Apply fault at the PERSIMN7 345.00 (515951) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. PERSIMN7 (515951) 345.0 kV to GUTHRIE7 (515961) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_047	P1	3 Phase fault on CHISHOLM7 345.00 (511553) 345 kV Bus a. Apply fault at the CHISHOLM7 345.00 (511553) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. CHISHOLM7 (511553) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_048	P1	3 Phase fault on TREASILD7 345.00 (511409) 345 kV Bus a. Apply fault at the TREASILD7 345.00 (511409) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TREASILD7 (511409) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_049	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_050	P1	3 Phase fault on DGRASSE7 345.00 (515852) 345 kV Bus a. Apply fault at the DGRASSE7 345.00 (515852) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. DGRASSE7 (515852) 345.0 kV to THISTLE7 (539801) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_051	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_052	P1	3 Phase fault on DGRASSE7 345.00 (515852) 345 kV Bus a. Apply fault at the DGRASSE7 345.00 (515852) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. DGRASSE7 (515852) 345.0 kV to THISTLE7 (539801) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_053	P1	3 Phase fault on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BVRCNTY7 (515554) 345.0 kV to HITCHLAND 7 (523097) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_054	P1	3 Phase fault on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BVRCNTY7 (515554) 345.0 kV to HITCHLAND 7 (523097) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_055	P1	3 Phase fault on BORDER 7345.00 (515458) 345 kV Bus a. Apply fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BORDER 7 (515458) 345.0 kV to TUCO_INT 7 (525832) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_056	P1	3 Phase fault on TOLK 7345.00 (525549) 345 kV Bus a. Apply fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TOLK 7 (525549) 345.0 kV to TOLK 6 (525531) 230.0 kV to TOLK_TR 1 (525537) 13.2 kV Three Winding #1 b.4. TOLK 7 (525549) 345.0 kV to CROSSROADS 7 (527656) 345.0 kV Transmission Circuit #1
GROUP5_P1_LOCAL_FAULT_057	P1	3 Phase fault on WWDPST 4 138.00 (515425) 138 kV Bus a. Apply fault at the WWDPST 4 138.00 (515425) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. WWDPST 4 (515425) 138.0 kV to WOODWRD4 (514785) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_058	P1	3 Phase fault on ELKCITY6 230.00 (511490) 230 kV Bus a. Apply fault at the ELKCITY6 230.00 (511490) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. ELKCTY-4 (511458) 138.0 kV to ELKCITY6 (511490) 230.0 kV to ELKC2-1 (511482) 13.8 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_059	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV4 (515376) 138.0 kV to WWRDEHV7 (515375) 345.0 kV to WWDEHV21 (515799) 13.8 kV Three Winding #2
GROUP5_P1_LOCAL_FAULT_060	P1	3 Phase fault on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. ELKCTY-2 (511459) 69.0 kV to ELKCTY-4 (511458) 138.0 kV to ELKC4-1 (511493) 13.8 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_061	P1	3 Phase fault on TREASILD7 345.00 (511409) 345 kV Bus a. Apply fault at the TREASILD7 345.00 (511409) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TREASILD7 (511409) 345.0 kV to GEN-2016-091 (587740) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_062	P1	3 Phase fault on TREASILD7 345.00 (511409) 345 kV Bus a. Apply fault at the TREASILD7 345.00 (511409) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TREASILD7 (511409) 345.0 kV to GEN-2016-095 (587770) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_063	P1	3 Phase fault on TREASILD7 345.00 (511409) 345 kV Bus a. Apply fault at the TREASILD7 345.00 (511409) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TREASILD7 (511409) 345.0 kV to G20-087-TAP (764550) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_064	P1	3 Phase fault on CL-AFTP4 138.00 (511446) 138 kV Bus a. Apply fault at the CL-AFTP4 138.00 (511446) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. CL-AFTP4 (511446) 138.0 kV to ELKCTY-4 (511458) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_065	P1	3 Phase fault on CL-AFTP4 138.00 (511446) 138 kV Bus a. Apply fault at the CL-AFTP4 138.00 (511446) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. CL-AFTP4 (511446) 138.0 kV to HOB-JCT4 (511463) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_066	P1	3 Phase fault on CL-AFTP4 138.00 (511446) 138 kV Bus a. Apply fault at the CL-AFTP4 138.00 (511446) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. CL-AFTP4 (511446) 138.0 kV to CLIN-AF4 (511535) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_067	P1	3 Phase fault on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. ELKCTY-4 (511458) 138.0 kV to FALCNRD4 (511511) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_068	P1	3 Phase fault on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. SWEETWT6 (511541) 230.0 kV to STLN-DEMARC6 (523779) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_069	P1	3 Phase fault on CHISHOLM7 345.00 (511553) 345 kV Bus a. Apply fault at the CHISHOLM7 345.00 (511553) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. CHISHOLM7 (511553) 345.0 kV to G16-037-TAP (560078) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_070	P1	3 Phase fault on IODINE-4 138.00 (514796) 138 kV Bus a. Apply fault at the IODINE-4 138.00 (514796) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. IODINE-4 (514796) 138.0 kV to WWRDEHV4 (515376) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_071	P1	3 Phase fault on IODINE-4 138.00 (514796) 138 kV Bus a. Apply fault at the IODINE-4 138.00 (514796) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. IODINE-4 (514796) 138.0 kV to REDCLFT4 (515533) 138.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_072	P1	3 Phase fault on MINCO 7 345.00 (514801) 345 kV Bus a. Apply fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. MINCO 7 (514801) 345.0 kV to GEN-2017-233 (761250) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_073	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_074	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_075	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to GEN-2019-012 (763527) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_076	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to GEN-2022-012 (767221) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_077	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV7 (515375) 345.0 kV to GEN-2022-016 (767301) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_078	P1	3 Phase fault on BORDER 7345.00 (515458) 345 kV Bus a. Apply fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BORDER 7 (515458) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_079	P1	3 Phase fault on BORDER 7345.00 (515458) 345 kV Bus a. Apply fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BORDER 7 (515458) 345.0 kV to G17-151TAP (762216) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_080	P1	3 Phase fault on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BVRCNTY7 (515554) 345.0 kV to PALDR2W7 (515590) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_081	P1	3 Phase fault on BADGER 7 345.00 (515677) 345 kV Bus a. Apply fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BADGER 7 (515677) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_082	P1	3 Phase fault on BADGER 7 345.00 (515677) 345 kV Bus a. Apply fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BADGER 7 (515677) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_083	P1	3 Phase fault on BADGER 7 345.00 (515677) 345 kV Bus a. Apply fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BADGER 7 (515677) 345.0 kV to GEN-2015-082 (585190) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_084	P1	3 Phase fault on GRACMNT7 345.00 (515800) 345 kV Bus a. Apply fault at the GRACMNT7 345.00 (515800) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. GRACMNT7 (515800) 345.0 kV to G16-037-TAP (560078) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_085	P1	3 Phase fault on PERSIMN7 345.00 (515951) 345 kV Bus a. Apply fault at the PERSIMN7 345.00 (515951) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. PERSIMN7 (515951) 345.0 kV to PRSIMN_CRK2 (585440) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_086	P1	3 Phase fault on BECKHAM7 345.00 (516059) 345 kV Bus a. Apply fault at the BECKHAM7 345.00 (516059) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BECKHAM7 (516059) 345.0 kV to POTTER_CO 7 (523961) 345.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_087	P1	3 Phase fault on 25MILE 7 345.00 (516146) 345 kV Bus a. Apply fault at the 25MILE 7 345.00 (516146) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. 25MILE 7 (516146) 345.0 kV to 25MILZ 7 (516159) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_088	P1	3 Phase fault on 25MILE 7 345.00 (516146) 345 kV Bus a. Apply fault at the 25MILE 7 345.00 (516146) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. 25MILE 7 (516146) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_089	P1	3 Phase fault on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. HITCHLAND 7 (523097) 345.0 kV to NOBLE_WND 7 (523101) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_090	P1	3 Phase fault on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. HITCHLAND 7 (523097) 345.0 kV to NOVUS1 7 (523112) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_091	P1	3 Phase fault on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. HITCHLAND 7 (523097) 345.0 kV to CARPENTER 7 (523823) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_092	P1	3 Phase fault on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. HITCHLAND 7 (523097) 345.0 kV to POTTER_CO 7 (523961) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_093	P1	<p>3 Phase fault on HITCHLAND 7345.00 (523097) 345 kV Bus</p> <p>a. Apply fault at the HITCHLAND 7345.00 (523097) 345 kV Bus</p> <p>b. Clear fault after 6 cycles and trip the faulted elements:</p> <p>b.1. HITCHLAND 7 (523097) 345.0 kV to G10014G11022 (576397) 345.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_094	P1	<p>3 Phase fault on XIT_INTG 6230.00 (523221) 230 kV Bus</p> <p>a. Apply fault at the XIT_INTG 6230.00 (523221) 230 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p>b.1. XIT_INTG 6 (523221) 230.0 kV to CHAN+TASCOS6 (523869) 230.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_095	P1	<p>3 Phase fault on MOORE_CNTY 6230.00 (523309) 230 kV Bus</p> <p>a. Apply fault at the MOORE_CNTY 6230.00 (523309) 230 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p>b.1. MOORE_CNTY 6 (523309) 230.0 kV to MCDWL_CREEK6 (523323) 230.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_096	P1	<p>3 Phase fault on MCDWL_CREEK6230.00 (523323) 230 kV Bus</p> <p>a. Apply fault at the MCDWL_CREEK6230.00 (523323) 230 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p>b.1. MCDWL_CREEK6 (523323) 230.0 kV to POTTER_CO 6 (523959) 230.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>
GROUP5_P1_LOCAL_FAULT_097	P1	<p>3 Phase fault on HUTCHISON 6230.00 (523551) 230 kV Bus</p> <p>a. Apply fault at the HUTCHISON 6230.00 (523551) 230 kV Bus</p> <p>b. Clear fault after 7 cycles and trip the faulted elements:</p> <p>b.1. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault</p> <p>d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault</p>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_098	P1	3 Phase fault on GRAPEVINE 6230.00 (523771) 230 kV Bus a. Apply fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to WHEELER 6 (523777) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_099	P1	3 Phase fault on GRAPEVINE 6230.00 (523771) 230 kV Bus a. Apply fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_100	P1	3 Phase fault on COBRN_CREEK3115.00 (523772) 115 kV Bus a. Apply fault at the COBRN_CREEK3115.00 (523772) 115 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. COBRN_CREEK3 (523772) 115.0 kV to WHEELER 3 (523776) 115.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_101	P1	3 Phase fault on WHEELER 6230.00 (523777) 230 kV Bus a. Apply fault at the WHEELER 6230.00 (523777) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. WHEELER 6 (523777) 230.0 kV to STLN-DEMAR6 (523779) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_102	P1	3 Phase fault on CHAN+TASCOS6230.00 (523869) 230 kV Bus a. Apply fault at the CHAN+TASCOS6230.00 (523869) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. CHAN+TASCOS6 (523869) 230.0 kV to POTTER_CO 6 (523959) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_103	P1	3 Phase fault on POTTER_CO 6230.00 (523959) 230 kV Bus a. Apply fault at the POTTER_CO 6230.00 (523959) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. POTTER_CO 6 (523959) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_104	P1	3 Phase fault on POTTER_CO 6230.00 (523959) 230 kV Bus a. Apply fault at the POTTER_CO 6230.00 (523959) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. POTTER_CO 6 (523959) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_105	P1	3 Phase fault on POTTER_CO 6230.00 (523959) 230 kV Bus a. Apply fault at the POTTER_CO 6230.00 (523959) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_106	P1	3 Phase fault on POTTER_CO 6230.00 (523959) 230 kV Bus a. Apply fault at the POTTER_CO 6230.00 (523959) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. POTTER_CO 6 (523959) 230.0 kV to NEWHART 6 (525461) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_107	P1	3 Phase fault on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. POTTER_CO 7 (523961) 345.0 kV to SPNSPUR_WND7 (524296) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_108	P1	3 Phase fault on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. POTTER_CO 7 (523961) 345.0 kV to TOLK 7 (525549) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_109	P1	3 Phase fault on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_110	P1	3 Phase fault on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_111	P1	3 Phase fault on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_112	P1	3 Phase fault on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_113	P1	3 Phase fault on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to RANDALL 6 (524365) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_114	P1	3 Phase fault on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. NICHOLS 6 (524044) 230.0 kV to AMA_SOUTH 6 (524415) 230.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_115	P1	3 Phase fault on TOLK 7345.00 (525549) 345 kV Bus a. Apply fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TOLK 7 (525549) 345.0 kV to CROSSROADS 7 (527656) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_116	P1	3 Phase fault on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TUCO_INT 7 (525832) 345.0 kV to ELK_CT1 (525850) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_117	P1	3 Phase fault on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TUCO_INT 7 (525832) 345.0 kV to G17-151TAP (762216) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_118	P1	3 Phase fault on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TUCO_INT 7 (525832) 345.0 kV to G20-067-TAP (764945) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_119	P1	3 Phase fault on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TUCO_INT 7 (525832) 345.0 kV to GEN-2022-147 (769921) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_120	P1	3 Phase fault on G16-003-TAP 345.00 (560071) 345 kV Bus a. Apply fault at the G16-003-TAP 345.00 (560071) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. G16-003-TAP (560071) 345.0 kV to GEN-2017-011 (588560) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_121	P1	3 Phase fault on G16-003-TAP 345.00 (560071) 345 kV Bus a. Apply fault at the G16-003-TAP 345.00 (560071) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. G16-003-TAP (560071) 345.0 kV to GEN-2021-015 (765440) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_122	P1	3 Phase fault on G16-037-TAP 345.00 (560078) 345 kV Bus a. Apply fault at the G16-037-TAP 345.00 (560078) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. G16-037-TAP (560078) 345.0 kV to GEN-2016-037 (587230) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_123	P1	3 Phase fault on G17-151TAP 345.00 (762216) 345 kV Bus a. Apply fault at the G17-151TAP 345.00 (762216) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. G17-151TAP (762216) 345.0 kV to GEN-2017-151 (762217) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_124	P1	3 Phase fault on G17-151TAP 345.00 (762216) 345 kV Bus a. Apply fault at the G17-151TAP 345.00 (762216) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. G17-151TAP (762216) 345.0 kV to G18-015-TAP (762467) 345.0 kV Transmission Circuit #1 c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_125	P1	3 Phase fault on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to HARRNG_MID 6 (523978) 230.0 kV Transmission Circuit # c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_126	P1	3 Phase fault on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit # c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_127	P1	3 Phase fault on CHISHOLM7 345.00 (511553) 345 kV Bus a. Apply fault at the CHISHOLM7 345.00 (511553) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. CHISHOLM6 (511557) 230.0 kV to CHISHOLM7 (511553) 345.0 kV to CHISHOLM1 (511558) 13.2 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_128	P1	3 Phase fault on WOODWRD4 138.00 (514785) 138 kV Bus a. Apply fault at the WOODWRD4 138.00 (514785) 138 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. WOODWRD4 (514785) 138.0 kV to WODWRD 2 (514782) 69.0 kV to WOODWR21 (515771) 13.2 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_129	P1	3 Phase fault on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. WWRDEHV4 (515376) 138.0 kV to WWRDEHV7 (515375) 345.0 kV to WWDEHV31 (515795) 13.8 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_130	P1	3 Phase fault on GRACMNT7 345.00 (515800) 345 kV Bus a. Apply fault at the GRACMNT7 345.00 (515800) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. GRACMNT4 (515802) 138.0 kV to GRACMNT7 (515800) 345.0 kV to GRCMNT11 (515801) 13.8 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_131	P1	3 Phase fault on DGRASSE7 345.00 (515852) 345 kV Bus a. Apply fault at the DGRASSE7 345.00 (515852) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. DGRASSE4 (515853) 138.0 kV to DGRASSE7 (515852) 345.0 kV to DGRASSE1 (515854) 13.8 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_132	P1	3 Phase fault on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. HITCHLAND 7 (523097) 345.0 kV to HITCHLAND 6 (523095) 230.0 kV to HITCHLD_TR01 (523091) 13.2 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_133	P1	3 Phase fault on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. HITCHLAND 7 (523097) 345.0 kV to HITCHLAND 6 (523095) 230.0 kV to HITCHLD_TR21 (523094) 13.2 kV Three Winding #2
GROUP5_P1_LOCAL_FAULT_134	P1	3 Phase fault on MCDWL_CREEK6230.00 (523323) 230 kV Bus a. Apply fault at the MCDWL_CREEK6230.00 (523323) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. MCDWL_CREEK6 (523323) 230.0 kV to MCDWL_CREEK3 (523322) 115.0 kV to MCDWL_CRKTR1 (523321) 13.2 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_135	P1	3 Phase fault on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV to HUTCH_TR1N 1 (523540) 13.2 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_136	P1	3 Phase fault on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV to HUTCH_TR2S 1 (523541) 13.2 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_137	P1	3 Phase fault on BOWERS 3115.00 (523748) 115 kV Bus a. Apply fault at the BOWERS 3115.00 (523748) 115 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. BOWERS 3 (523748) 115.0 kV to BOWERS 2 (523747) 69.0 kV to BOWERS_TR2 1 (523745) 13.2 kV Three Winding #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_138	P1	3 Phase fault on BOWERS 3115.00 (523748) 115 kV Bus a. Apply fault at the BOWERS 3115.00 (523748) 115 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. BOWERS 3 (523748) 115.0 kV to BOWERS 2 (523747) 69.0 kV to BOWERS_TR1 1 (523746) 13.2 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_139	P1	3 Phase fault on GRAPEVINE 6230.00 (523771) 230 kV Bus a. Apply fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to GRAPEVINE 3 (523770) 115.0 kV to GRAPEVN_TR11 (523769) 13.2 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_140	P1	3 Phase fault on WHEELER 6230.00 (523777) 230 kV Bus a. Apply fault at the WHEELER 6230.00 (523777) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. WHEELER 6 (523777) 230.0 kV to WHEELER 3 (523776) 115.0 kV to WHEELER_TR11 (523774) 13.2 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_141	P1	3 Phase fault on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #1
GROUP5_P1_LOCAL_FAULT_142	P1	3 Phase fault on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_143	P1	3 Phase fault on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV to POTTER_TR 1 (523957) 13.2 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_144	P1	3 Phase fault on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR11 (524041) 13.2 kV Three Winding #1
GROUP5_P1_LOCAL_FAULT_145	P1	3 Phase fault on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR21 (524042) 13.2 kV Three Winding #2
GROUP5_P1_LOCAL_FAULT_146	P1	3 Phase fault on TOLK 7345.00 (525549) 345 kV Bus a. Apply fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TOLK 7 (525549) 345.0 kV to TOLK 6 (525531) 230.0 kV to TOLK_TR 2 1 (525538) 13.2 kV Three Winding #2
GROUP5_P1_LOCAL_FAULT_147	P1	3 Phase fault on TOLK 7345.00 (525549) 345 kV Bus a. Apply fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TOLK 7 (525549) 345.0 kV to TOLK 6 (525531) 230.0 kV to TOLK_TR 1 (525537) 13.2 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_148	P1	3 Phase fault on TOLK 7345.00 (525549) 345 kV Bus a. Apply fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TOLK 7 (525549) 345.0 kV to TOLK 6 (525531) 230.0 kV to TOLK_TR 2 1 (526938) 13.2 kV Three Winding #2
GROUP5_P1_LOCAL_FAULT_149	P1	3 Phase fault on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TUCO_INT 7 (525832) 345.0 kV to TUCO_INT 6 (525830) 230.0 kV to TUCO_TR2 1 (525825) 13.2 kV Three Winding #2
GROUP5_P1_LOCAL_FAULT_150	P1	3 Phase fault on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. TUCO_INT 7 (525832) 345.0 kV to TUCO_INT 6 (525830) 230.0 kV to TUCO_TR1 1 (525824) 13.2 kV Three Winding #1A
GROUP5_P1_LOCAL_FAULT_151	P1	3 Phase fault on BORDER 7345.00 (515458) 345 kV Bus a. Apply fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BORDER 7 (515458) 345.0 kV Switched Shunt Device # c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_152	P1	3 Phase fault on BECKHAM7 345.00 (516059) 345 kV Bus a. Apply fault at the BECKHAM7 345.00 (516059) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. BECKHAM7 (516059) 345.0 kV Switched Shunt Device # c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P1_LOCAL_FAULT_153	P1	3 Phase fault on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear fault after 6 cycles and trip the faulted elements: b.1. HITCHLAND 7 (523097) 345.0 kV Switched Shunt Device # c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 6 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P1_LOCAL_FAULT_154	P1	3 Phase fault on COBRN_CREEK3115.00 (523772) 115 kV Bus a. Apply fault at the COBRN_CREEK3115.00 (523772) 115 kV Bus b. Clear fault after 7 cycles and trip the faulted elements: b.1. COBRN_CREEK3 (523772) 115.0 kV Switched Shunt Device # c. Wait 20 cycles, and then reclose the faulted elements in (b) back into the Fault d. Leave Fault on for 7 cycles, then trip the faulted elements in (b) and clear the fault
GROUP5_P4_LOCAL_FAULT_001	P4	Single Phase Fault with Stuck Breaker on GRAPEVINE 6230.00 (523771) 230 kV Bus a. Apply Fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 3 (523770) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1 b.2. BOWERS 3 (523748) 115.0 kV to GRAPEVINE 3 (523770) 115.0 kV Transmission Circuit #1 b.3. GRAPEVN_TR11 (523769) 13.2 kV to GRAPEVINE 6 (523771) 230.0 kV to GRAPEVINE 3 (523770) 115.0 kV Three Winding #1 b.4. GRAPEVINE 3 (523770) 115.0 kV to GRAPEVINE 6 (523771) 230.0 kV to GRAPEVN_TR11 (523769) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_002	P4	Single Phase Fault with Stuck Breaker on WINDFRM4 138.00 (515785) 138 kV Bus a. Apply Fault at the WINDFRM4 138.00 (515785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1 b.2. WINDFRM4 (515785) 138.0 kV to FPLWIND4 (515786) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_003	P4	Single Phase Fault with Stuck Breaker on WINDFRM4 138.00 (515785) 138 kV Bus a. Apply Fault at the WINDFRM4 138.00 (515785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WINDFRM4 (515785) 138.0 kV to MOORLND4 (520999) 138.0 kV Transmission Circuit #1 b.2. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_004	P4	Single Phase Fault with Stuck Breaker on WOODWRD4 138.00 (514785) 138 kV Bus a. Apply Fault at the WOODWRD4 138.00 (514785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_005	P4	Single Phase Fault with Stuck Breaker on WOODWRD4 138.00 (514785) 138 kV Bus a. Apply Fault at the WOODWRD4 138.00 (514785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WOODWRD4 (514785) 138.0 kV to CENT 4 (515363) 138.0 kV Transmission Circuit #1 b.2. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_006	P4	Single Phase Fault with Stuck Breaker on WWDPST 4 138.00 (515425) 138 kV Bus a. Apply Fault at the WWDPST 4 138.00 (515425) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWDPST 4 (515425) 138.0 kV to WOODWRD4 (514785) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_007	P4	Single Phase Fault with Stuck Breaker on WWDPST 4 138.00 (515425) 138 kV Bus a. Apply Fault at the WWDPST 4 138.00 (515425) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWDPST 4 (515425) 138.0 kV to WOODWRD4 (514785) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_008	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to WWRDEHV7 (515375) 345.0 kV to WWDEHV21 (515799) 13.8 kV Three Winding #2 b.4. IODINE-4 (514796) 138.0 kV to WWRDEHV4 (515376) 138.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_009	P4	Single Phase Fault with Stuck Breaker on WWRDEHV4 138.00 (515376) 138 kV Bus a. Apply Fault at the WWRDEHV4 138.00 (515376) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to OUSPRT 4 (515398) 138.0 kV Transmission Circuit #1 b.2. WWRDEHV4 (515376) 138.0 kV to WWDPST 4 (515425) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_010	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to DEMPSEY6 (511544) 230.0 kV Transmission Circuit #1 b.2. SWEETWT6 (511541) 230.0 kV to BUFFCK6 (511542) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_011	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to DEMPSEY6 (511544) 230.0 kV Transmission Circuit #1 b.2. SWEETWT6 (511541) 230.0 kV to None Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_012	P4	Single Phase Fault with Stuck Breaker on GS-PHWDRNCH134.500 (524289) 34.5 kV Bus a. Apply Fault at the GS-PHWDRNCH134.500 (524289) 34.5 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1 b.2. BUSHLAND 6 (524267) 230.0 kV to DEAFSMITH 6 (524623) 230.0 kV Transmission Circuit #1 b.3. BUSHLAND 6 (524267) 230.0 kV to WILDOR2_JUS6 (524290) 230.0 kV Transmission Circuit #1 b.4. BSHLND_TR1 1 (524263) 13.2 kV to BUSHLAND 6 (524267) 230.0 kV to BUSHLAND 3 (524266) 115.0 kV Three Winding #1 b.6. WILDOR_WND 1 (524275) 34.5 kV to WILDORA_GEN1 (524285) 0.7 kV Two Winding #1 b.7. GS-PHWDRNCH1 (524289) 34.5 kV to GS-PHWD_GEN1 (524287) 0.7 kV Two Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_013	P4	Single Phase Fault with Stuck Breaker on CHAN+TASCOS6230.00 (523869) 230 kV Bus a. Apply Fault at the CHAN+TASCOS6230.00 (523869) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CHAN+TASCOS6 (523869) 230.0 kV to POTTER_CO 6 (523959) 230.0 kV Transmission Circuit #1 b.2. XIT_INTG 6 (523221) 230.0 kV to CHAN+TASCOS6 (523869) 230.0 kV Transmission Circuit #1 b.3. CHANNING 1 (523866) 34.5 kV to CHAN+TASCOS6 (523869) 230.0 kV Two Winding #1 b.4. CHANNING 1 (523866) 34.5 kV to CHAN+TASCOS6 (523869) 230.0 kV Two Winding #2
GROUP5_P4_LOCAL_FAULT_014	P4	Single Phase Fault with Stuck Breaker on EAST_PLANT 6230.00 (524163) 230 kV Bus a. Apply Fault at the EAST_PLANT 6230.00 (524163) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. EPLANT_TR3 1 (524160) 13.2 kV to EAST_PLANT 6 (524163) 230.0 kV to EAST_PLANT 3 (524162) 115.0 kV Three Winding #1 b.2. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_015	P4	Single Phase Fault with Stuck Breaker on NEWHART 6230.00 (525461) 230 kV Bus a. Apply Fault at the NEWHART 6230.00 (525461) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWISHER 6 (525213) 230.0 kV to NEWHART 6 (525461) 230.0 kV Transmission Circuit #1 b.2. POTTER_CO 6 (523959) 230.0 kV to NEWHART 6 (525461) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_016	P4	Single Phase Fault with Stuck Breaker on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply Fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2 b.2. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_017	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply Fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 6 (523959) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1 b.2. POTTER_TR 1 (523957) 13.2 kV to POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Three Winding #1



FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_018	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 6230.00 (523959) 230 kV Bus a. Apply Fault at the POTTER_CO 6230.00 (523959) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1 b.2. POTTER_CO 6 (523959) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_019	P4	Single Phase Fault with Stuck Breaker on ROLLHILLS 6230.00 (524010) 230 kV Bus a. Apply Fault at the ROLLHILLS 6230.00 (524010) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 6 (523959) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1 b.2. ROLLHILLS 3 (524007) 115.0 kV to ROLLHILLS 6 (524010) 230.0 kV to ROLLHILLS_TR1 (524008) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_020	P4	Single Phase Fault with Stuck Breaker on WHEELER 6230.00 (523777) 230 kV Bus a. Apply Fault at the WHEELER 6230.00 (523777) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to WHEELER 6 (523777) 230.0 kV Transmission Circuit #1 b.2. SWEETWT6 (511541) 230.0 kV to STLN-DEMARC6 (523779) 230.0 kV Transmission Circuit #1 b.3. WHEELER 6 (523777) 230.0 kV to STLN-DEMARC6 (523779) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_021	P4	Single Phase Fault with Stuck Breaker on BADGER 7 345.00 (515677) 345 kV Bus a. Apply Fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BADGER 7 (515677) 345.0 kV to BLUWND 7 (515686) 345.0 kV Transmission Circuit #1 b.2. BADGER 7 (515677) 345.0 kV to GEN-2015-082 (585190) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_022	P4	Single Phase Fault with Stuck Breaker on BVCNTY7 345.00 (515554) 345 kV Bus a. Apply Fault at the BVCNTY7 345.00 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #2 b.2. BVCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_023	P4	Single Phase Fault with Stuck Breaker on BADGER 7 345.00 (515677) 345 kV Bus a. Apply Fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #1 b.2. G16-003-TAP (560071) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_024	P4	Single Phase Fault with Stuck Breaker on BADGER 7 345.00 (515677) 345 kV Bus a. Apply Fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #2 b.2. GEN-2015-082 (585190) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_025	P4	Single Phase Fault with Stuck Breaker on BORDER 7345.00 (515458) 345 kV Bus a. Apply Fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BORDER 7 (515458) 345.0 kV to TUCO_INT 7 (525832) 345.0 kV Transmission Circuit #1 b.2. WWRDEHV7 (515375) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_026	P4	Single Phase Fault with Stuck Breaker on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply Fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to HITCHLAND 7 (523097) 345.0 kV Transmission Circuit #1 b.2. BVRCNTY7 (515554) 345.0 kV to PALDR2W7 (515590) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_027	P4	Single Phase Fault with Stuck Breaker on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply Fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #2 b.2. BVRCNTY7 (515554) 345.0 kV to BALKOW 7 (515618) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_028	P4	Single Phase Fault with Stuck Breaker on CIMARON7 345.00 (514901) 345 kV Bus a. Apply Fault at the CIMARON7 345.00 (514901) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to CIMARON7 (514901) 345.0 kV Transmission Circuit #1 b.2. CIMARON7 (514901) 345.0 kV to FSHRTAP7 (515610) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_029	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_030	P4	Single Phase Fault with Stuck Breaker on DGRASSE7 345.00 (515852) 345 kV Bus a. Apply Fault at the DGRASSE7 345.00 (515852) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. DGRASSE7 (515852) 345.0 kV to THISTLE7 (539801) 345.0 kV Transmission Circuit #2 b.2. DGRASSE7 (515852) 345.0 kV to THISTLE7 (539801) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_031	P4	Single Phase Fault with Stuck Breaker on DGRASSE7 345.00 (515852) 345 kV Bus a. Apply Fault at the DGRASSE7 345.00 (515852) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. DGRASSE7 (515852) 345.0 kV to THISTLE7 (539801) 345.0 kV Transmission Circuit #1 b.2. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_032	P4	Single Phase Fault with Stuck Breaker on DGRASSE7 345.00 (515852) 345 kV Bus a. Apply Fault at the DGRASSE7 345.00 (515852) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. DGRASSE7 (515852) 345.0 kV to THISTLE7 (539801) 345.0 kV Transmission Circuit #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_033	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #1 b.2. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_034	P4	Single Phase Fault with Stuck Breaker on GRACMNT7 345.00 (515800) 345 kV Bus a. Apply Fault at the GRACMNT7 345.00 (515800) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TREASILD7 (511409) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1 b.2. MINCO 7 (514801) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_035	P4	Single Phase Fault with Stuck Breaker on GRACMNT7 345.00 (515800) 345 kV Bus a. Apply Fault at the GRACMNT7 345.00 (515800) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1 b.2. G16-037-TAP (560078) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_036	P4	Single Phase Fault with Stuck Breaker on TREASILD7 345.00 (511409) 345 kV Bus a. Apply Fault at the TREASILD7 345.00 (511409) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TREASILD7 (511409) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_037	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to MCNOWND7 (515444) 345.0 kV Transmission Circuit #1 b.2. MINCO 7 (514801) 345.0 kV to CIMARON7 (514901) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_038	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1 b.2. MINCO 7 (514801) 345.0 kV to MNCWND37 (515549) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_039	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to MNCWND37 (515549) 345.0 kV Transmission Circuit #1 b.2. MINCO 7 (514801) 345.0 kV to CIMARON7 (514901) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_040	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to MCNOWND7 (515444) 345.0 kV Transmission Circuit #1 b.2. MINCO 7 (514801) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_041	P4	Single Phase Fault with Stuck Breaker on TATONGA7 345.00 (515407) 345 kV Bus a. Apply Fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TATONGA7 (515407) 345.0 kV to MAMTHPW7 (515585) 345.0 kV Transmission Circuit #1 b.2. TATONGA7 (515407) 345.0 kV to MATHWSN7 (515497) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_042	P4	Single Phase Fault with Stuck Breaker on TATONGA7 345.00 (515407) 345 kV Bus a. Apply Fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TATONGA7 (515407) 345.0 kV to SLNGWND7 (515582) 345.0 kV Transmission Circuit #1 b.2. WWRDEHV7 (515375) 345.0 kV to TATONGA7 (515407) 345.0 kV Transmission Circuit #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_043	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to WWRDEHV7 (515375) 345.0 kV to WWDEHV21 (515799) 13.8 kV Three Winding #2 b.4. WWRDEHV7 (515375) 345.0 kV to TATONGA7 (515407) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_044	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to TATONGA7 (515407) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_045	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to GUTHRIE7 (515961) 345.0 kV Transmission Circuit #1 b.2. WWRDEHV7 (515375) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_046	P4	Single Phase Fault with Stuck Breaker on CARPENTER 7345.00 (523823) 345 kV Bus a. Apply Fault at the CARPENTER 7345.00 (523823) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CARPENTER 7 (523823) 345.0 kV to FINNEY 7 (523853) 345.0 kV Transmission Circuit #1 b.2. HITCHLAND 7 (523097) 345.0 kV to CARPENTER 7 (523823) 345.0 kV Transmission Circuit #1 b.3. CARPENTER 7 (523823) 345.0 kV to HARBNGR7 (531512) 345.0 kV Transmission Circuit #z1 b.4. CARPENTER 7 (523823) 345.0 kV to GEN-2020-008 (764980) 345.0 kV Transmission Circuit #1 b.5. CARPENTER 7 (523823) 345.0 kV to GEN-2021-021 (765490) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_047	P4	Single Phase Fault with Stuck Breaker on SAGASCOL2 134.500 (527612) 34.5 kV Bus a. Apply Fault at the SAGASCOL2 134.500 (527612) 34.5 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TOLK 7 (525549) 345.0 kV to CROSSROADS 7 (527656) 345.0 kV Transmission Circuit #1 b.2. SAGA_SDCOL 7 (527599) 345.0 kV to SAGA_SCOL 7 (527610) 345.0 kV Transmission Circuit #1 b.3. SAGA_SCOL 7 (527610) 345.0 kV to CROSSROADS 7 (527656) 345.0 kV

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		<p>Transmission Circuit #1</p> <ul style="list-style-type: none"> <li>b.4. GRDXFR3 1 (527604) 0.5 kV to SAGANCOL1 1 (527602) 34.5 kV Two Winding #1</li> <li>b.5. SAGANCOL1 1 (527602) 34.5 kV to SAGSFT3_2.21 (527605) 0.7 kV Two Winding #1</li> <li>b.6. GRDXFR4 1 (527606) 0.5 kV to SAGANCOL2 1 (527603) 34.5 kV Two Winding #1</li> <li>b.7. SAGANCOL2 1 (527603) 34.5 kV to SAGSFT4_2.21 (527607) 0.7 kV Two Winding #1</li> <li>b.8. SAGANCOL1 1 (527602) 34.5 kV to SUB BUS #3 1 (527608) 34.5 kV Transmission Circuit #1</li> <li>b.9. SUB BUS #3 1 (527608) 34.5 kV to SAGA_NDCOL 7 (527598) 345.0 kV to SAGA_NCLTR31 (527621) 13.8 kV Three Winding #1</li> <li>b.10. SAGANCOL2 1 (527603) 34.5 kV to SUB BUS #4 1 (527609) 34.5 kV Transmission Circuit #1</li> <li>b.11. SUB BUS #4 1 (527609) 34.5 kV to SAGA_NDCOL 7 (527598) 345.0 kV to SAGA_NCLTR41 (527622) 13.8 kV Three Winding #1</li> <li>b.12. GRDXFR1 1 (527613) 0.5 kV to SAGASCOL1 1 (527611) 34.5 kV Two Winding #1</li> <li>b.13. SAGASCOL1 1 (527611) 34.5 kV to SAGSFT1_2.21 (527614) 0.7 kV Two Winding #1</li> <li>b.14. SAGASCOL1 1 (527611) 34.5 kV to SAGSFT1_2.01 (527615) 0.7 kV Two Winding #1</li> <li>b.15. SAGASCOL2 1 (527612) 34.5 kV to SAGSFT2_2.21 (527617) 0.7 kV Two Winding #1</li> <li>b.16. SAGASCOL2 1 (527612) 34.5 kV to SAGSFT2_2.01 (527618) 0.7 kV Two Winding #1</li> </ul>
GROUP5_P4_LOCAL_FAULT_048	P4	<p>Single Phase Fault with Stuck Breaker on GRPLNS-CB2-134.500 (523126) 34.5 kV Bus</p> <ul style="list-style-type: none"> <li>a. Apply Fault at the GRPLNS-CB2-134.500 (523126) 34.5 kV Bus</li> <li>b. Clear Fault after 16 cycles and trip the following elements: <ul style="list-style-type: none"> <li>b.1. HITCHLAND 7 (523097) 345.0 kV to POTTER_CO 7 (523961) 345.0 kV Transmission Circuit #1</li> <li>b.2. NOBLE_TR 1 (523102) 13.8 kV to NOBLE_WND 7 (523101) 345.0 kV to NOBLE_WND 3 (523103) 115.0 kV Three Winding #1</li> <li>b.3. NOBLE_WND 3 (523103) 115.0 kV to GRPLNS-HV2-3 (523131) 115.0 kV Transmission Circuit #1</li> <li>b.4. NOBLE_WND 3 (523103) 115.0 kV to NOBLE_WND 7 (523101) 345.0 kV to NOBLE_TR 1 (523102) 13.8 kV Three Winding #1</li> <li>b.5. GRPLNS-HV4-3 (523130) 115.0 kV to GRPLNS-HV2-3 (523131) 115.0 kV Transmission Circuit #1</li> <li>b.6. GRPLNS-HV4-3 (523130) 115.0 kV to GRPLNS-LV4-1 (523127) 34.5 kV Two Winding #1</li> <li>b.7. NBLWND-LV2 1 (523128) 34.5 kV to GRPLNS-HV2-3 (523131) 115.0 kV Two Winding #1</li> <li>b.8. GRPLNS-HV2-3 (523131) 115.0 kV to GRPLNS-LV2-1 (523129) 34.5 kV Two Winding #1</li> <li>b.9. GRPLNS-CB4-1 (523124) 34.5 kV to GRPLNS-LV4-1 (523127) 34.5 kV Transmission Circuit #1</li> <li>b.10. GRPLNS-LV4-1 (523127) 34.5 kV to GRPLNS-GT4-1 (523133) 0.5 kV Two Winding #1</li> <li>b.11. GRPLNS-CB2-1 (523126) 34.5 kV to GRPLNS-LV2-1 (523129) 34.5 kV Transmission Circuit #1</li> <li>b.12. GRPLNS-LV2-1 (523129) 34.5 kV to GRPLNS-GT2-1 (523132) 0.5 kV Two</li> </ul> </li> </ul>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		Winding #1 b.13. GRPLNS-CB4-1 (523124) 34.5 kV to GRPLNS-WT4-1 (523121) 0.6 kV Two Winding #1 b.14. GRPLNS-CB2-1 (523126) 34.5 kV to GRPLNS-WT2-1 (523123) 0.6 kV Two Winding #1
GROUP5_P4_LOCAL_FAULT_049	P4	Single Phase Fault with Stuck Breaker on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply Fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HITCHLAND 7 (523097) 345.0 kV to CARPENTER 7 (523823) 345.0 kV Transmission Circuit #1 b.2. HITCHLD_TR21 (523094) 13.2 kV to HITCHLAND 7 (523097) 345.0 kV to HITCHLAND 6 (523095) 230.0 kV Three Winding #2 b.3. HITCHLAND 7 (523097) 345.0 kV to Switched Shunt Device #
GROUP5_P4_LOCAL_FAULT_050	P4	Single Phase Fault with Stuck Breaker on NOVUS1 7345.00 (523112) 345 kV Bus a. Apply Fault at the NOVUS1 7345.00 (523112) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to HITCHLAND 7 (523097) 345.0 kV Transmission Circuit #2 b.2. NOVUS_WND 1 (523107) 4.2 kV to NOVUS1 1 (523109) 34.5 kV Two Winding #1 b.3. NOVUS1 1 (523109) 34.5 kV to NOVUS1 3 (523111) 115.0 kV Two Winding #1 b.4. G06-44-2 (560581) 34.5 kV to NOVUS1 3 (523111) 115.0 kV Two Winding #1 b.5. NOVUS1 3 (523111) 115.0 kV to NOVUS1 7 (523112) 345.0 kV to NOVUS1_TR1 1 (523110) 13.8 kV Three Winding #1 b.6. NOVUS1_TR1 1 (523110) 13.8 kV to NOVUS1 7 (523112) 345.0 kV to NOVUS1 3 (523111) 115.0 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_051	P4	Single Phase Fault with Stuck Breaker on SPNSPUR_WND134.500 (524294) 34.5 kV Bus a. Apply Fault at the SPNSPUR_WND134.500 (524294) 34.5 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HITCHLAND 7 (523097) 345.0 kV to POTTER_CO 7 (523961) 345.0 kV Transmission Circuit #1 b.2. POTTER_TR 1 (523957) 13.2 kV to POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Three Winding #1 b.3. BECKHAM7 (516059) 345.0 kV to POTTER_CO 7 (523961) 345.0 kV Transmission Circuit #2 b.4. POTTER_CO 7 (523961) 345.0 kV to SPNSPUR_WND7 (524296) 345.0 kV Transmission Circuit #1 b.5. POTTER_CO 7 (523961) 345.0 kV to TOLK 7 (525549) 345.0 kV Transmission Circuit #1 b.6. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #1 b.7. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #2 b.9. SPNSPUR_WND7 (524296) 345.0 kV to SPNSPUR_COL7 (524299) 345.0 kV

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		Transmission Circuit #1 b.10. SPNSPUR_GEN1 (524295) 0.7 kV to SPNSPUR_WND1 (524294) 34.5 kV Two Winding #1
GROUP5_P4_LOCAL_FAULT_052	P4	Single Phase Fault with Stuck Breaker on HOWARD 3115.00 (523797) 115 kV Bus a. Apply Fault at the HOWARD 3115.00 (523797) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HOWARD_TR2 1 (523795) 13.2 kV to HOWARD 3 (523797) 115.0 kV to HOWARD 2 (523796) 69.0 kV Three Winding #2 b.2. WHEELER 3 (523776) 115.0 kV to HOWARD 3 (523797) 115.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_053	P4	Single Phase Fault with Stuck Breaker on GS-PHWDRNCH134.500 (524289) 34.5 kV Bus a. Apply Fault at the GS-PHWDRNCH134.500 (524289) 34.5 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BSHLND_TR1 1 (524263) 13.2 kV to BUSHLAND 6 (524267) 230.0 kV to BUSHLAND 3 (524266) 115.0 kV Three Winding #1 b.2. BUSHLAND 6 (524267) 230.0 kV to DEAFSMITH 6 (524623) 230.0 kV Transmission Circuit #1 b.3. BUSHLAND 6 (524267) 230.0 kV to WILDOR2_JUS6 (524290) 230.0 kV Transmission Circuit #1 b.4. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1 b.6. WILDOR_WND 1 (524275) 34.5 kV to WILDORA_GEN1 (524285) 0.7 kV Two Winding #1 b.7. GS-PHWDRNCH1 (524289) 34.5 kV to GS-PHWD_GEN1 (524287) 0.7 kV Two Winding #1
GROUP5_P4_LOCAL_FAULT_054	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.2. RIVERVIEW 3 (523377) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1 b.3. W_BORGER_TP3 (523516) 115.0 kV to W_BORGER 3 (523518) 115.0 kV Transmission Circuit #1 b.4. CAMX/AGR TP3 (523485) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1 b.5. CAMX/AGR TP3 (523485) 115.0 kV to CAMEX/AGRM 3 (523486) 115.0 kV Transmission Circuit #1 b.6. CAMX/AGR TP3 (523485) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV Transmission Circuit #1 b.7. BLKHAWK_W 3 (523344) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		b.8. HUTCH_N 3 (523544) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit # b.9. HUTCH_TR3 1 (523542) 13.2 kV to HUTCH_S 3 (523546) 115.0 kV to HUTCHISON 2 (523543) 69.0 kV Three Winding #1 b.10. HUTCH_TR2S 1 (523541) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_055	P4	Single Phase Fault with Stuck Breaker on TOLK 7345.00 (525549) 345 kV Bus a. Apply Fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TOLK 7 (525549) 345.0 kV to CROSSROADS 7 (527656) 345.0 kV Transmission Circuit #1 b.2. TOLK_TR 2 1 (526938) 13.2 kV to TOLK 7 (525549) 345.0 kV to TOLK 6 (525531) 230.0 kV Three Winding #2 b.3. TOLK_TR 1 (525537) 13.2 kV to TOLK 7 (525549) 345.0 kV to TOLK 6 (525531) 230.0 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_056	P4	Single Phase Fault with Stuck Breaker on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply Fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TUCO_TR1 1 (525824) 13.2 kV to TUCO_INT 7 (525832) 345.0 kV to TUCO_INT 6 (525830) 230.0 kV Three Winding #1 b.2. BORDER 7 (515458) 345.0 kV to TUCO_INT 7 (525832) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_057	P4	Single Phase Fault with Stuck Breaker on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply Fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TUCO_INT 7 (525832) 345.0 kV to ELK_CT1 (525850) 345.0 kV Transmission Circuit #1 b.2. ELK_CT1 (525850) 345.0 kV to ELK_1 1 (525844) 18.0 kV Two Winding #1 b.3. ELK_CT1 (525850) 345.0 kV to ELK_2 1 (525845) 18.0 kV Two Winding #1 b.4. TUCO_INT 7 (525832) 345.0 kV to G20-067-TAP (764945) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_058	P4	Single Phase Fault with Stuck Breaker on BUSHLAND 6230.00 (524267) 230 kV Bus a. Apply Fault at the BUSHLAND 6230.00 (524267) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BSHLND_TR1 1 (524263) 13.2 kV to BUSHLAND 6 (524267) 230.0 kV to BUSHLAND 3 (524266) 115.0 kV Three Winding #1 b.2. BUSHLAND 6 (524267) 230.0 kV to DEAFSMITH 6 (524623) 230.0 kV Transmission Circuit #1 b.3. BUSHLAND 6 (524267) 230.0 kV to WILDOR2_JUS6 (524290) 230.0 kV Transmission Circuit #1 b.4. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1 b.6. WILDOR_WND 1 (524275) 34.5 kV to WILDORA_GEN1 (524285) 0.7 kV

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		Two Winding #1 b.7. GS-PHWDRNCH1 (524289) 34.5 kV to GS-PHWD_GEN1 (524287) 0.7 kV Two Winding #1 b.8. BUSHLAND 6 (524267) 230.0 kV to Switched Shunt Device #
GROUP5_P4_LOCAL_FAULT_059	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. RIVERVIEW 3 (523377) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit #1 b.2. HUTCH_S 3 (523546) 115.0 kV to GRAY_CNTY 3 (523636) 115.0 kV Transmission Circuit #1 b.3. HUTCH_S 3 (523546) 115.0 kV to MARTIN 3 (523928) 115.0 kV Transmission Circuit #1 b.4. HUTCH_N 3 (523544) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit #1 b.5. HUTCH_S 3 (523546) 115.0 kV to HUTCHISON 2 (523543) 69.0 kV to HUTCH_TR3 1 (523542) 13.2 kV Three Winding #1 b.6. HUTCH_S 3 (523546) 115.0 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_TR2S 1 (523541) 13.2 kV Three Winding #1 b.7. RIVERVIEW 3 (523377) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1 b.8. W_BORGER_TP3 (523516) 115.0 kV to W_BORGER 3 (523518) 115.0 kV Transmission Circuit #1 b.9. CAMX/AGR TP3 (523485) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1 b.10. CAMX/AGR TP3 (523485) 115.0 kV to CAMEX/AGRM 3 (523486) 115.0 kV Transmission Circuit #1 b.11. CAMX/AGR TP3 (523485) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV Transmission Circuit #1 b.12. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.13. HUTCH_TR1N 1 (523540) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV Three Winding #1 b.14. HUTCH_TR2S 1 (523541) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_060	P4	Single Phase Fault with Stuck Breaker on KIRBY 3115.00 (524088) 115 kV Bus a. Apply Fault at the KIRBY 3115.00 (524088) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 3 (523770) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1 b.2. SHAM 3WT (512107) 115.0 kV to MCLEAN 3 (523811) 115.0 kV Transmission Circuit #1 b.3. MCCLELLAN 3 (523804) 115.0 kV to MCLEAN 3 (523811) 115.0 kV Transmission Circuit #1 b.4. MCCLELLAN 3 (523804) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1 b.5. NICHOLS 3 (524043) 115.0 kV to YARNELL_TP 3 (524072) 115.0 kV

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		Transmission Circuit #1 b.6. YARNELL_TP 3 (524072) 115.0 kV to CONWAY 3 (524079) 115.0 kV Transmission Circuit #1 b.7. CONWAY 3 (524079) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_061	P4	Single Phase Fault with Stuck Breaker on CENT 4 138.00 (515363) 138 kV Bus a. Apply Fault at the CENT 4 138.00 (515363) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WOODWRD4 (514785) 138.0 kV to CENT 4 (515363) 138.0 kV Transmission Circuit #1 b.2. CENT 4 (515363) 138.0 kV to CENT 21 (515365) 34.5 kV to CENT 11 (515364) 10.0 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_062	P4	Single Phase Fault with Stuck Breaker on WOODWRD4 138.00 (514785) 138 kV Bus a. Apply Fault at the WOODWRD4 138.00 (514785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. NEWGRTP2 (514776) 69.0 kV to WODWRD 2 (514782) 69.0 kV Transmission Circuit #1 b.2. CEDARAV2 (514781) 69.0 kV to WODWRD 2 (514782) 69.0 kV Transmission Circuit #1 b.3. WODWRD 2 (514782) 69.0 kV to WOODWRD2 (521096) 69.0 kV Transmission Circuit #1 b.4. WODWRD 2 (514782) 69.0 kV to WOODWRD4 (514785) 138.0 kV to WOODWR21 (515771) 13.2 kV Three Winding #1 b.5. WOODWRD4 (514785) 138.0 kV to CENT 4 (515363) 138.0 kV Transmission Circuit #1 b.6. WOODWRD4 (514785) 138.0 kV to WWRDEHV4 (515376) 138.0 kV Transmission Circuit #2 b.7. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1 b.8. WWPST 4 (515425) 138.0 kV to WOODWRD4 (514785) 138.0 kV Transmission Circuit #1 b.10. WWRDEHV4 (515376) 138.0 kV to WWPST 4 (515425) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_063	P4	Single Phase Fault with Stuck Breaker on BUSHLAND 6230.00 (524267) 230 kV Bus a. Apply Fault at the BUSHLAND 6230.00 (524267) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1 b.2. BUSHLAND 6 (524267) 230.0 kV to WILDOR2_JUS6 (524290) 230.0 kV Transmission Circuit #1 b.3. BSHLND_TR1 1 (524263) 13.2 kV to BUSHLAND 6 (524267) 230.0 kV to BUSHLAND 3 (524266) 115.0 kV Three Winding #1 b.4. WILDOR_WND 1 (524275) 34.5 kV to WILDORA_GEN1 (524285) 0.7 kV Two Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		b.5. GS-PHWDRNCH1 (524289) 34.5 kV to GS-PHWD_GEN1 (524287) 0.7 kV Two Winding #1 b.6. BUSHLAND 6 (524267) 230.0 kV to DEAFSMITH 6 (524623) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_064	P4	Single Phase Fault with Stuck Breaker on BUSHLAND 6230.00 (524267) 230 kV Bus a. Apply Fault at the BUSHLAND 6230.00 (524267) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BUSHLAND 6 (524267) 230.0 kV to DEAFSMITH 6 (524623) 230.0 kV Transmission Circuit #1 b.2. BUSHLAND 6 (524267) 230.0 kV to WILDOR2_JUS6 (524290) 230.0 kV Transmission Circuit #1 b.3. BSHLND_TR1 1 (524263) 13.2 kV to BUSHLAND 6 (524267) 230.0 kV to BUSHLAND 3 (524266) 115.0 kV Three Winding #1 b.4. WILDOR_WND 1 (524275) 34.5 kV to WILDORA_GEN1 (524285) 0.7 kV Two Winding #1 b.5. GS-PHWDRNCH1 (524289) 34.5 kV to GS-PHWD_GEN1 (524287) 0.7 kV Two Winding #1 b.6. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1 b.7. BUSHLAND 6 (524267) 230.0 kV to Switched Shunt Device #
GROUP5_P4_LOCAL_FAULT_065	P4	Single Phase Fault with Stuck Breaker on HARRNG_EST 6230.00 (523979) 230 kV Bus a. Apply Fault at the HARRNG_EST 6230.00 (523979) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. PRINGLE 6 (523267) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1 b.2. HARRNG_MID 6 (523978) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit # b.3. HARRNG_EST 6 (523979) 230.0 kV to HARRNGTON3 1 (523973) 24.0 kV Two Winding #1 b.4. POTTER_CO 6 (523959) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_066	P4	Single Phase Fault with Stuck Breaker on ELKCITY6 230.00 (511490) 230 kV Bus a. Apply Fault at the ELKCITY6 230.00 (511490) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCITY6 (511490) 230.0 kV to CHISHOLM6 (511557) 230.0 kV Transmission Circuit #1 b.2. ELKCITY6 (511490) 230.0 kV to ELKCTY-4 (511458) 138.0 kV to ELKC2-1 (511482) 13.8 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_067	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to STLN-DEMARC6 (523779) 230.0 kV Transmission Circuit #1 b.2. SWEETWT6 (511541) 230.0 kV to CHISHOLM6 (511557) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_068	P4	Single Phase Fault with Stuck Breaker on CHISHOLM7 345.00 (511553) 345 kV Bus a. Apply Fault at the CHISHOLM7 345.00 (511553) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CHISHOLM7 (511553) 345.0 kV to G16-037-TAP (560078) 345.0 kV Transmission Circuit #1 b.2. CHISHOLM7 (511553) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_069	P4	Single Phase Fault with Stuck Breaker on CHISHOLM6 230.00 (511557) 230 kV Bus a. Apply Fault at the CHISHOLM6 230.00 (511557) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CHISHOLM6 (511557) 230.0 kV to SWEETWT6 (511541) 230.0 kV Transmission Circuit #1 b.2. CHISHOLM6 (511557) 230.0 kV to ELKCITY6 (511490) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_070	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #1 b.2. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_071	P4	Single Phase Fault with Stuck Breaker on BORDER 7345.00 (515458) 345 kV Bus a. Apply Fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BORDER 7 (515458) 345.0 kV to TUCO_INT 7 (525832) 345.0 kV Transmission Circuit #1 b.2. BORDER 7 (515458) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_072	P4	Single Phase Fault with Stuck Breaker on BECKHAM7 345.00 (516059) 345 kV Bus a. Apply Fault at the BECKHAM7 345.00 (516059) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BECKHAM7 (516059) 345.0 kV to CHISHOLM7 (511553) 345.0 kV Transmission Circuit #1 b.2. BECKHAM7 (516059) 345.0 kV to POTTER_CO 7 (523961) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_073	P4	Single Phase Fault with Stuck Breaker on GRAPEVINE 6230.00 (523771) 230 kV Bus a. Apply Fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to WHEELER 6 (523777) 230.0 kV Transmission Circuit #1 b.2. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_074	P4	Single Phase Fault with Stuck Breaker on WHEELER 6230.00 (523777) 230 kV Bus a. Apply Fault at the WHEELER 6230.00 (523777) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WHEELER 3 (523776) 115.0 kV to WHEELER 6 (523777) 230.0 kV to WHEELER_TR11 (523774) 13.2 kV Three Winding #1 b.2. WHEELER 3 (523776) 115.0 kV to HOWARD 3 (523797) 115.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_075	P4	Single Phase Fault with Stuck Breaker on WHEELER 6230.00 (523777) 230 kV Bus a. Apply Fault at the WHEELER 6230.00 (523777) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WHEELER 6 (523777) 230.0 kV to STLN-DEMARCO6 (523779) 230.0 kV Transmission Circuit #1 b.2. WHEELER 6 (523777) 230.0 kV to GRAPEVINE 6 (523771) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_076	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply Fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 7 (523961) 345.0 kV to TOLK 7 (525549) 345.0 kV Transmission Circuit #1 b.2. POTTER_CO 7 (523961) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_077	P4	Single Phase Fault with Stuck Breaker on G16-037-TAP 345.00 (560078) 345 kV Bus a. Apply Fault at the G16-037-TAP 345.00 (560078) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. G16-037-TAP (560078) 345.0 kV to CHISHOLM7 (511553) 345.0 kV Transmission Circuit #1 b.2. G16-037-TAP (560078) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_078	P4	Single Phase Fault with Stuck Breaker on ELKCITY6 (511490) 230 kV Bus a. Apply Fault at the ELKCITY6 (511490) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCITY6 (511490) 230.0 kV to remove bus #
GROUP5_P4_LOCAL_FAULT_079	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to remove bus #
GROUP5_P4_LOCAL_FAULT_080	P4	Single Phase Fault with Stuck Breaker on CHISHOLM7 (511553) 345 kV Bus a. Apply Fault at the CHISHOLM7 (511553) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CHISHOLM7 (511553) 345.0 kV to remove bus #
GROUP5_P4_LOCAL_FAULT_081	P4	Single Phase Fault with Stuck Breaker on CHISHOLM6 (511557) 230 kV Bus a. Apply Fault at the CHISHOLM6 (511557) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CHISHOLM6 (511557) 230.0 kV to remove bus #

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_083	P4	Single Phase Fault with Stuck Breaker on BORDER 7 (515458) 345 kV Bus a. Apply Fault at the BORDER 7 (515458) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BORDER 7 (515458) 345.0 kV to remove bus #
GROUP5_P4_LOCAL_FAULT_085	P4	Single Phase Fault with Stuck Breaker on GRAPEVINE 6 (523771) 230 kV Bus a. Apply Fault at the GRAPEVINE 6 (523771) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to remove bus #
GROUP5_P4_LOCAL_FAULT_086	P4	Single Phase Fault with Stuck Breaker on WHEELER 3 (523776) 115 kV Bus a. Apply Fault at the WHEELER 3 (523776) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WHEELER 3 (523776) 115.0 kV to remove bus #
GROUP5_P4_LOCAL_FAULT_087	P4	Single Phase Fault with Stuck Breaker on WHEELER 6 (523777) 230 kV Bus a. Apply Fault at the WHEELER 6 (523777) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WHEELER 6 (523777) 230.0 kV to remove bus #
GROUP5_P4_LOCAL_FAULT_088	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 7 (523961) 345 kV Bus a. Apply Fault at the POTTER_CO 7 (523961) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 7 (523961) 345.0 kV to remove bus #

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_089	P4	Single Phase Fault with Stuck Breaker on G16-037-TAP (560078) 345 kV Bus a. Apply Fault at the G16-037-TAP (560078) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. G16-037-TAP (560078) 345.0 kV to remove bus #
GROUP5_P4_LOCAL_FAULT_090	P4	Single Phase Fault with Stuck Breaker on CENT 4 138.00 (515363) 138 kV Bus a. Apply Fault at the CENT 4 138.00 (515363) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WOODWRD4 (514785) 138.0 kV to CENT 4 (515363) 138.0 kV Transmission Circuit #1 b.2. CENT 4 (515363) 138.0 kV to CENT 21 (515365) 34.5 kV to CENT 11 (515364) 10.0 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_091	P4	Single Phase Fault with Stuck Breaker on WINDFRM4 138.00 (515785) 138 kV Bus a. Apply Fault at the WINDFRM4 138.00 (515785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1 b.2. WINDFRM4 (515785) 138.0 kV to FPLWIND4 (515786) 138.0 kV Transmission Circuit #1 b.3. WINDFRM4 (515785) 138.0 kV to MOORLND4 (520999) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_092	P4	Single Phase Fault with Stuck Breaker on EAST_PLANT 6230.00 (524163) 230 kV Bus a. Apply Fault at the EAST_PLANT 6230.00 (524163) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1 b.2. EPLANT_TR3 1 (524160) 13.2 kV to EAST_PLANT 6 (524163) 230.0 kV to EAST_PLANT 3 (524162) 115.0 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_093	P4	Single Phase Fault with Stuck Breaker on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply Fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.2. HARRNG_WST 6 (523977) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1 b.3. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1 b.4. HARRNG_WST 6 (523977) 230.0 kV to HARRNG_MID 6 (523978) 230.0 kV Transmission Circuit #

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		b.5. HARRNG_WST 6 (523977) 230.0 kV to HARRNGTON1 1 (523971) 24.0 kV Two Winding #1
GROUP5_P4_LOCAL_FAULT_094	P4	Single Phase Fault with Stuck Breaker on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply Fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2 b.2. HARRNG_MID 6 (523978) 230.0 kV to RANDALL 6 (524365) 230.0 kV Transmission Circuit #1 b.3. HARRNG_WST 6 (523977) 230.0 kV to HARRNG_MID 6 (523978) 230.0 kV Transmission Circuit # b.4. HARRNG_MID 6 (523978) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit # b.5. HARRNG_MID 6 (523978) 230.0 kV to HARRNGTON2 1 (523972) 24.0 kV Two Winding #1
GROUP5_P4_LOCAL_FAULT_095	P4	Single Phase Fault with Stuck Breaker on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply Fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to RANDALL 6 (524365) 230.0 kV Transmission Circuit #1 b.2. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2 b.3. HARRNG_WST 6 (523977) 230.0 kV to HARRNG_MID 6 (523978) 230.0 kV Transmission Circuit # b.4. HARRNG_MID 6 (523978) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit # b.5. HARRNG_MID 6 (523978) 230.0 kV to HARRNGTON2 1 (523972) 24.0 kV Two Winding #1
GROUP5_P4_LOCAL_FAULT_096	P4	Single Phase Fault with Stuck Breaker on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply Fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. PRINGLE 6 (523267) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1 b.2. POTTER_CO 6 (523959) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1 b.3. HARRNG_MID 6 (523978) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit # b.4. HARRNG_EST 6 (523979) 230.0 kV to HARRNGTON3 1 (523973) 24.0 kV Two Winding #1 b.5. HARRNGTON3 1 (523973) 24.0 kV to Generator #

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_097	P4	Single Phase Fault with Stuck Breaker on HARRNG_EST 6230.00 (523979) 230 kV Bus a. Apply Fault at the HARRNG_EST 6230.00 (523979) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. PRINGLE 6 (523267) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1 b.2. POTTER_CO 6 (523959) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1 b.3. HARRNG_MID 6 (523978) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit # b.4. HARRNG_EST 6 (523979) 230.0 kV to HARRNGTON3 1 (523973) 24.0 kV Two Winding #1
GROUP5_P4_LOCAL_FAULT_098	P4	Single Phase Fault with Stuck Breaker on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply Fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1 b.2. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.3. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1 b.4. HARRNG_WST 6 (523977) 230.0 kV to HARRNG_MID 6 (523978) 230.0 kV Transmission Circuit # b.5. HARRNG_WST 6 (523977) 230.0 kV to HARRNGTON1 1 (523971) 24.0 kV Two Winding #1
GROUP5_P4_LOCAL_FAULT_099	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.2. HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV to HUTCH_TR1N 1 (523540) 13.2 kV Three Winding #1 b.3. HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV to HUTCH_TR2S 1 (523541) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_100	P4	Single Phase Fault with Stuck Breaker on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply Fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.2. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.3. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.4. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2 b.5. NICHOLS 6 (524044) 230.0 kV to AMA_SOUTH 6 (524415) 230.0 kV Transmission Circuit #1 b.6. NICHOLS 6 (524044) 230.0 kV to NICHOLS_3 1 (524023) 22.0 kV Two Winding #1 b.7. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR11 (524041) 13.2 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		b.8. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR21 (524042) 13.2 kV Three Winding #2
GROUP5_P4_LOCAL_FAULT_101	P4	Single Phase Fault with Stuck Breaker on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply Fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.2. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.3. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.4. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2 b.5. NICHOLS 6 (524044) 230.0 kV to AMA_SOUTH 6 (524415) 230.0 kV Transmission Circuit #1 b.6. NICHOLS 6 (524044) 230.0 kV to NICHOLS_3 1 (524023) 22.0 kV Two Winding #1 b.7. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR11 (524041) 13.2 kV Three Winding #1 b.8. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR21 (524042) 13.2 kV Three Winding #2
GROUP5_P4_LOCAL_FAULT_102	P4	Single Phase Fault with Stuck Breaker on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply Fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. NICHOLS 6 (524044) 230.0 kV to AMA_SOUTH 6 (524415) 230.0 kV Transmission Circuit #1 b.2. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.3. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.4. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.5. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2 b.6. NICHOLS 6 (524044) 230.0 kV to NICHOLS_3 1 (524023) 22.0 kV Two Winding #1 b.7. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR11 (524041) 13.2 kV Three Winding #1 b.8. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR21 (524042) 13.2 kV Three Winding #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_103	P4	<p>Single Phase Fault with Stuck Breaker on POTTER_CO 7345.00 (523961) 345 kV Bus</p> <p>a. Apply Fault at the POTTER_CO 7345.00 (523961) 345 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. MCDWL_CREEK6 (523323) 230.0 kV to POTTER_CO 6 (523959) 230.0 kV Transmission Circuit #1</p> <p>b.2. CHAN+TASCOS6 (523869) 230.0 kV to POTTER_CO 6 (523959) 230.0 kV Transmission Circuit #1</p> <p>b.3. POTTER_CO 6 (523959) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1</p> <p>b.4. POTTER_CO 6 (523959) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1</p> <p>b.5. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1</p> <p>b.6. POTTER_CO 6 (523959) 230.0 kV to NEWHART 6 (525461) 230.0 kV Transmission Circuit #1</p> <p>b.7. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #1</p> <p>b.8. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #2</p> <p>b.9. POTTER_CO 6 (523959) 230.0 kV to POTTER_CO 7 (523961) 345.0 kV to POTTER_TR 1 (523957) 13.2 kV Three Winding #1</p>
GROUP5_P4_LOCAL_FAULT_104	P4	<p>Single Phase Fault with Stuck Breaker on POTTER_CO 7345.00 (523961) 345 kV Bus</p> <p>a. Apply Fault at the POTTER_CO 7345.00 (523961) 345 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. POTTER_CO 6 (523959) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1</p> <p>b.2. MCDWL_CREEK6 (523323) 230.0 kV to POTTER_CO 6 (523959) 230.0 kV Transmission Circuit #1</p> <p>b.3. CHAN+TASCOS6 (523869) 230.0 kV to POTTER_CO 6 (523959) 230.0 kV Transmission Circuit #1</p> <p>b.4. POTTER_CO 6 (523959) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1</p> <p>b.5. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1</p> <p>b.6. POTTER_CO 6 (523959) 230.0 kV to NEWHART 6 (525461) 230.0 kV Transmission Circuit #1</p> <p>b.7. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #1</p> <p>b.8. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #2</p> <p>b.9. POTTER_CO 6 (523959) 230.0 kV to POTTER_CO 7 (523961) 345.0 kV to POTTER_TR 1 (523957) 13.2 kV Three Winding #1</p>
GROUP5_P4_LOCAL_FAULT_105	P4	<p>Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus</p> <p>a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. BLKHAWK_W 3 (523344) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV Transmission Circuit #1</p> <p>b.2. RIVERVIEW 3 (523377) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1</p> <p>b.3. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV</p>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		<p>Transmission Circuit #1  b.4. HUTCH_S 3 (523546) 115.0 kV to GRAY_CNTY 3 (523636) 115.0 kV  Transmission Circuit #1  b.5. GRAYCO_TR1 1 (523634) 13.2 kV to GRAY_CNTY 3 (523636) 115.0 kV to GRAY_CNTY 2 (523635) 69.0 kV Three Winding #1  b.6. HUTCH_N 3 (523544) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV  Transmission Circuit #1  b.7. RIVERVIEW 3 (523377) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV  Transmission Circuit #1  b.8. HUTCH_TR2S 1 (523541) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV Three Winding #1  b.9. HUTCH_TR1N 1 (523540) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV Three Winding #1</p>
GROUP5_P4_LOCAL_FAULT_106	P4	<p>Single Phase Fault with Stuck Breaker on HUTCH_S 3115.00 (523546) 115 kV Bus  a. Apply Fault at the HUTCH_S 3115.00 (523546) 115 kV Bus  b. Clear Fault after 16 cycles and trip the following elements:  b.1. BLKHAWK_W 3 (523344) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV  Transmission Circuit #1  b.2. RIVERVIEW 3 (523377) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV  Transmission Circuit #1  b.3. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV  Transmission Circuit #1  b.4. HUTCH_S 3 (523546) 115.0 kV to GRAY_CNTY 3 (523636) 115.0 kV  Transmission Circuit #1  b.5. GRAYCO_TR1 1 (523634) 13.2 kV to GRAY_CNTY 3 (523636) 115.0 kV to GRAY_CNTY 2 (523635) 69.0 kV Three Winding #1  b.6. HUTCH_S 3 (523546) 115.0 kV to MARTIN 3 (523928) 115.0 kV  Transmission Circuit #1  b.7. RIVERVIEW 3 (523377) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV  Transmission Circuit #1  b.8. HUTCH_TR3 1 (523542) 13.2 kV to HUTCH_S 3 (523546) 115.0 kV to HUTCHISON 2 (523543) 69.0 kV Three Winding #1</p>
GROUP5_P4_LOCAL_FAULT_107	P4	<p>Single Phase Fault with Stuck Breaker on EAST_PLANT 6230.00 (524163) 230 kV Bus  a. Apply Fault at the EAST_PLANT 6230.00 (524163) 230 kV Bus  b. Clear Fault after 16 cycles and trip the following elements:  b.1. EPLANT_TR3 1 (524160) 13.2 kV to EAST_PLANT 6 (524163) 230.0 kV to EAST_PLANT 3 (524162) 115.0 kV Three Winding #1  b.2. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV  Transmission Circuit #1</p>
GROUP5_P4_LOCAL_FAULT_108	P4	<p>Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus  a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus  b. Clear Fault after 16 cycles and trip the following elements:  b.1. HUTCH_TR1N 1 (523540) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV Three Winding #1  b.2. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV  Transmission Circuit #1  b.4. HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV to HUTCH_TR2S 1 (523541) 13.2 kV Three Winding #1</p>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_109	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCH_TR2S 1 (523541) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV Three Winding #1 b.2. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.3. HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV to HUTCH_TR1N 1 (523540) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_110	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.2. RIVERVIEW 3 (523377) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1 b.3. HUTCH_S 3 (523546) 115.0 kV to GRAY_CNTY 3 (523636) 115.0 kV Transmission Circuit #1 b.4. GRAYCO_TR1 1 (523634) 13.2 kV to GRAY_CNTY 3 (523636) 115.0 kV to GRAY_CNTY 2 (523635) 69.0 kV Three Winding #1 b.5. BLKHAWK_W 3 (523344) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV Transmission Circuit #1 b.6. HUTCH_N 3 (523544) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit # b.7. RIVERVIEW 3 (523377) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit #1 b.8. HUTCH_TR2S 1 (523541) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV Three Winding #1 b.9. HUTCH_TR1N 1 (523540) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_111	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.2. RIVERVIEW 3 (523377) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1 b.3. HUTCH_S 3 (523546) 115.0 kV to GRAY_CNTY 3 (523636) 115.0 kV Transmission Circuit #1 b.4. GRAYCO_TR1 1 (523634) 13.2 kV to GRAY_CNTY 3 (523636) 115.0 kV to GRAY_CNTY 2 (523635) 69.0 kV Three Winding #1 b.5. BLKHAWK_W 3 (523344) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV Transmission Circuit #1 b.6. HUTCH_N 3 (523544) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit # b.7. RIVERVIEW 3 (523377) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit #1 b.8. HUTCH_TR2S 1 (523541) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		<p>b.9. HUTCH_TR1N 1 (523540) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV Three Winding #1</p>
GROUP5_P4_LOCAL_FAULT_112	P4	<p>Single Phase Fault with Stuck Breaker on NICHOLS 6230.00 (524044) 230 kV Bus</p> <p>a. Apply Fault at the NICHOLS 6230.00 (524044) 230 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. NICHOLS_TR21 (524042) 13.2 kV to NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV Three Winding #2</p> <p>b.2. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.3. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.4. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.5. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2</p> <p>b.6. NICHOLS 6 (524044) 230.0 kV to AMA_SOUTH 6 (524415) 230.0 kV Transmission Circuit #1</p> <p>b.7. NICHOLS 6 (524044) 230.0 kV to NICHOLS_3 1 (524023) 22.0 kV Two Winding #1</p> <p>b.8. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR11 (524041) 13.2 kV Three Winding #1</p>
GROUP5_P4_LOCAL_FAULT_113	P4	<p>Single Phase Fault with Stuck Breaker on NICHOLS 6230.00 (524044) 230 kV Bus</p> <p>a. Apply Fault at the NICHOLS 6230.00 (524044) 230 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. NICHOLS_TR11 (524041) 13.2 kV to NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV Three Winding #1</p> <p>b.2. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.3. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.4. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.5. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2</p> <p>b.6. NICHOLS 6 (524044) 230.0 kV to AMA_SOUTH 6 (524415) 230.0 kV Transmission Circuit #1</p> <p>b.7. NICHOLS 6 (524044) 230.0 kV to NICHOLS_3 1 (524023) 22.0 kV Two Winding #1</p> <p>b.9. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR21 (524042) 13.2 kV Three Winding #2</p>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_114	P4	<p>Single Phase Fault with Stuck Breaker on HARRNG_WST 6230.00 (523977) 230 kV Bus</p> <p>a. Apply Fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1</p> <p>b.2. MANHATTAN 3 (524224) 115.0 kV to RANDALL 3 (524364) 115.0 kV Transmission Circuit #1</p> <p>b.3. ROLLHILLS 3 (524007) 115.0 kV to HASTINGS 3 (524136) 115.0 kV Transmission Circuit #1</p> <p>b.4. NICHOLS 3 (524043) 115.0 kV to WHITAKER 3 (524058) 115.0 kV Transmission Circuit #1</p> <p>b.5. PIERCE_TP 3 (524185) 115.0 kV to OSAGE 3 (524345) 115.0 kV Transmission Circuit #1</p>
GROUP5_P4_LOCAL_FAULT_115	P4	<p>Single Phase Fault with Stuck Breaker on GRAPEVINE 3115.00 (523770) 115 kV Bus</p> <p>a. Apply Fault at the GRAPEVINE 3115.00 (523770) 115 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. BOWERS 3 (523748) 115.0 kV to GRAPEVINE 3 (523770) 115.0 kV Transmission Circuit #1</p> <p>b.2. GRAPEVINE 3 (523770) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1</p> <p>b.3. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.4. GRAPEVINE 6 (523771) 230.0 kV to WHEELER 6 (523777) 230.0 kV Transmission Circuit #1</p>
GROUP5_P4_LOCAL_FAULT_116	P4	<p>Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus</p> <p>a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. BLKHAWK_W 3 (523344) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV Transmission Circuit #1</p> <p>b.2. RIVERVIEW 3 (523377) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1</p> <p>b.3. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.4. HUTCH_S 3 (523546) 115.0 kV to GRAY_CNTY 3 (523636) 115.0 kV Transmission Circuit #1</p> <p>b.5. GRAYCO_TR1 1 (523634) 13.2 kV to GRAY_CNTY 3 (523636) 115.0 kV to GRAY_CNTY 2 (523635) 69.0 kV Three Winding #1</p> <p>b.6. HUTCH_N 3 (523544) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit #1</p> <p>b.7. RIVERVIEW 3 (523377) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit #1</p> <p>b.8. HUTCH_TR2S 1 (523541) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV Three Winding #1</p> <p>b.9. HUTCH_TR1N 1 (523540) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV Three Winding #1</p>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_117	P4	<p>Single Phase Fault with Stuck Breaker on HUTCH_S 3115.00 (523546) 115 kV Bus</p> <p>a. Apply Fault at the HUTCH_S 3115.00 (523546) 115 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. BLKHAWK_W 3 (523344) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV Transmission Circuit #1</p> <p>b.2. RIVERVIEW 3 (523377) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1</p> <p>b.3. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.4. HUTCH_S 3 (523546) 115.0 kV to GRAY_CNTY 3 (523636) 115.0 kV Transmission Circuit #1</p> <p>b.5. GRAYCO_TR1 1 (523634) 13.2 kV to GRAY_CNTY 3 (523636) 115.0 kV to GRAY_CNTY 2 (523635) 69.0 kV Three Winding #1</p> <p>b.6. HUTCH_S 3 (523546) 115.0 kV to MARTIN 3 (523928) 115.0 kV Transmission Circuit #1</p> <p>b.7. RIVERVIEW 3 (523377) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit #1</p> <p>b.8. HUTCH_TR3 1 (523542) 13.2 kV to HUTCH_S 3 (523546) 115.0 kV to HUTCHISON 2 (523543) 69.0 kV Three Winding #1</p>
GROUP5_P4_LOCAL_FAULT_118	P4	<p>Single Phase Fault with Stuck Breaker on KIRBY 3115.00 (524088) 115 kV Bus</p> <p>a. Apply Fault at the KIRBY 3115.00 (524088) 115 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. CONWAY 3 (524079) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1</p> <p>b.2. GRAPEVINE 3 (523770) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1</p> <p>b.3. JERICHO3 (512086) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1</p> <p>b.4. MCCLELLAN 3 (523804) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1</p>
GROUP5_P4_LOCAL_FAULT_119	P4	<p>Single Phase Fault with Stuck Breaker on GRAPEVINE 6230.00 (523771) 230 kV Bus</p> <p>a. Apply Fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus</p> <p>b. Clear Fault after 16 cycles and trip the following elements:</p> <p>b.1. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</p> <p>b.2. GRAPEVINE 6 (523771) 230.0 kV to WHEELER 6 (523777) 230.0 kV Transmission Circuit #1</p> <p>b.3. GRAPEVINE 3 (523770) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1</p> <p>b.4. MCCULLOUGH 2 (523701) 69.0 kV to BOWERS 2 (523747) 69.0 kV Transmission Circuit #1</p> <p>b.5. GRAPEVN_TR11 (523769) 13.2 kV to GRAPEVINE 6 (523771) 230.0 kV to GRAPEVINE 3 (523770) 115.0 kV Three Winding #1</p>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_120	P4	<p>Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus</p> <ul style="list-style-type: none"> <li>a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus</li> <li>b. Clear Fault after 16 cycles and trip the following elements: <ul style="list-style-type: none"> <li>b.1. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1</li> <li>b.2. RIVERVIEW 3 (523377) 115.0 kV to W_BORGER_TP3 (523516) 115.0 kV Transmission Circuit #1</li> <li>b.3. HUTCH_S 3 (523546) 115.0 kV to GRAY_CNTY 3 (523636) 115.0 kV Transmission Circuit #1</li> <li>b.4. GRAYCO_TR1 1 (523634) 13.2 kV to GRAY_CNTY 3 (523636) 115.0 kV to GRAY_CNTY 2 (523635) 69.0 kV Three Winding #1</li> <li>b.5. BLKHAWK_W 3 (523344) 115.0 kV to HUTCH_N 3 (523544) 115.0 kV Transmission Circuit #1</li> <li>b.6. HUTCH_N 3 (523544) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit #</li> <li>b.7. RIVERVIEW 3 (523377) 115.0 kV to HUTCH_S 3 (523546) 115.0 kV Transmission Circuit #1</li> <li>b.8. HUTCH_TR2S 1 (523541) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV Three Winding #1</li> <li>b.9. HUTCH_TR1N 1 (523540) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV Three Winding #1</li> </ul> </li> </ul>
GROUP5_P4_LOCAL_FAULT_121	P4	<p>Single Phase Fault with Stuck Breaker on EAST_PLANT 6230.00 (524163) 230 kV Bus</p> <ul style="list-style-type: none"> <li>a. Apply Fault at the EAST_PLANT 6230.00 (524163) 230 kV Bus</li> <li>b. Clear Fault after 16 cycles and trip the following elements: <ul style="list-style-type: none"> <li>b.1. EPLANT_TR1 1 (524158) 13.2 kV to EAST_PLANT 3 (524162) 115.0 kV to EAST_PLANT 2 (524161) 69.0 kV Three Winding #1</li> <li>b.2. EPLANT_TR2 1 (524159) 13.2 kV to EAST_PLANT 3 (524162) 115.0 kV to EAST_PLANT 2 (524161) 69.0 kV Three Winding #2</li> <li>b.3. EPLANT_TR3 1 (524160) 13.2 kV to EAST_PLANT 6 (524163) 230.0 kV to EAST_PLANT 3 (524162) 115.0 kV Three Winding #1</li> <li>b.4. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1</li> <li>b.6. WHITAKER 3 (524058) 115.0 kV to EAST_PLANT 3 (524162) 115.0 kV Transmission Circuit #1</li> <li>b.7. HASTINGS 3 (524136) 115.0 kV to EAST_PLANT 3 (524162) 115.0 kV Transmission Circuit #1</li> <li>b.8. EAST_PLANT 3 (524162) 115.0 kV to PIERCE_TP 3 (524185) 115.0 kV Transmission Circuit #1</li> <li>b.9. EAST_PLANT 3 (524162) 115.0 kV to MANHATTAN 3 (524224) 115.0 kV Transmission Circuit #1</li> </ul> </li> </ul>
GROUP5_P4_LOCAL_FAULT_122	P4	<p>Single Phase Fault with Stuck Breaker on GRAPEVINE 6230.00 (523771) 230 kV Bus</p> <ul style="list-style-type: none"> <li>a. Apply Fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus</li> <li>b. Clear Fault after 16 cycles and trip the following elements: <ul style="list-style-type: none"> <li>b.1. GRAPEVN_TR11 (523769) 13.2 kV to GRAPEVINE 6 (523771) 230.0 kV to GRAPEVINE 3 (523770) 115.0 kV Three Winding #1</li> <li>b.2. BOWERS 3 (523748) 115.0 kV to GRAPEVINE 3 (523770) 115.0 kV Transmission Circuit #1</li> <li>b.3. GRAPEVINE 3 (523770) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1</li> </ul> </li> </ul>

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
		b.4. GRAPEVINE 3 (523770) 115.0 kV to GRAPEVINE 6 (523771) 230.0 kV to GRAPEVN_TR11 (523769) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_123	P4	Single Phase Fault with Stuck Breaker on KIRBY 3115.00 (524088) 115 kV Bus a. Apply Fault at the KIRBY 3115.00 (524088) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. JERICO3 (512086) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1 b.2. GRAPEVINE 3 (523770) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1 b.3. MCCLELLAN 3 (523804) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1 b.4. CONWAY 3 (524079) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_124	P4	Single Phase Fault with Stuck Breaker on WHEELER 6230.00 (523777) 230 kV Bus a. Apply Fault at the WHEELER 6230.00 (523777) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WHEELER_TR11 (523774) 13.2 kV to WHEELER 6 (523777) 230.0 kV to WHEELER 3 (523776) 115.0 kV Three Winding #1 b.2. COBRN_CREEK3 (523772) 115.0 kV to WHEELER 3 (523776) 115.0 kV Transmission Circuit #1 b.3. WHEELER 3 (523776) 115.0 kV to HOWARD 3 (523797) 115.0 kV Transmission Circuit #1 b.4. WHEELER 3 (523776) 115.0 kV to WHEELER 6 (523777) 230.0 kV to WHEELER_TR11 (523774) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_125	P4	Single Phase Fault with Stuck Breaker on HOB-JCT4 138.00 (511463) 138 kV Bus a. Apply Fault at the HOB-JCT4 138.00 (511463) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CARNEG-4 (511445) 138.0 kV to HOB-JCT4 (511463) 138.0 kV Transmission Circuit #1 b.2. CL-AFTP4 (511446) 138.0 kV to HOB-JCT4 (511463) 138.0 kV Transmission Circuit #1 b.3. HOB-JCT4 (511463) 138.0 kV to RKY_RDG4 (511554) 138.0 kV Transmission Circuit #1 b.4. HOB-JCT4 (511463) 138.0 kV to MARTHA 4 (511564) 138.0 kV Transmission Circuit #1 b.5. HOB-JCT4 (511463) 138.0 kV to HOB-JCT2 (511464) 69.0 kV to HOB-JT1-1 (511417) 13.8 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_126	P4	Single Phase Fault with Stuck Breaker on OUSPRT 4 138.00 (515398) 138 kV Bus a. Apply Fault at the OUSPRT 4 138.00 (515398) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to OUSPRT 4 (515398) 138.0 kV Transmission Circuit #1 b.2. OUSPRT 4 (515398) 138.0 kV to OUSPRT 1 (515397) 34.5 kV to OUSPRT T (515396) 10.0 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_127	P4	Single Phase Fault with Stuck Breaker on WWDPST 4 138.00 (515425) 138 kV Bus a. Apply Fault at the WWDPST 4 138.00 (515425) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to WWDPST 4 (515425) 138.0 kV Transmission Circuit #1 b.2. WWDPST 4 (515425) 138.0 kV to WOODWRD4 (514785) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_128	P4	Single Phase Fault with Stuck Breaker on BUSHLAND 6230.00 (524267) 230 kV Bus a. Apply Fault at the BUSHLAND 6230.00 (524267) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BSHLND_TR1 1 (524263) 13.2 kV to BUSHLAND 6 (524267) 230.0 kV to BUSHLAND 3 (524266) 115.0 kV Three Winding #1 b.2. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1 b.3. BUSHLAND 6 (524267) 230.0 kV to WILDOR2_JUS6 (524290) 230.0 kV Transmission Circuit #1 b.4. BUSHLAND 6 (524267) 230.0 kV to DEAFSMITH 6 (524623) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_129	P4	Single Phase Fault with Stuck Breaker on EAST_PLANT 6230.00 (524163) 230 kV Bus a. Apply Fault at the EAST_PLANT 6230.00 (524163) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. EPLANT_TR3 1 (524160) 13.2 kV to EAST_PLANT 6 (524163) 230.0 kV to EAST_PLANT 3 (524162) 115.0 kV Three Winding #1 b.2. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_130	P4	Single Phase Fault with Stuck Breaker on GRAPEVINE 6230.00 (523771) 230 kV Bus a. Apply Fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVN_TR11 (523769) 13.2 kV to GRAPEVINE 6 (523771) 230.0 kV to GRAPEVINE 3 (523770) 115.0 kV Three Winding #1 b.2. GRAPEVINE 6 (523771) 230.0 kV to WHEELER 6 (523777) 230.0 kV Transmission Circuit #1 b.3. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1



FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_131	P4	Single Phase Fault with Stuck Breaker on HARRNG_EST 6230.00 (523979) 230 kV Bus a. Apply Fault at the HARRNG_EST 6230.00 (523979) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_EST 6 (523979) 230.0 kV to HARRNGTON3 1 (523973) 24.0 kV Two Winding #1 b.2. PRINGLE 6 (523267) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1 b.3. POTTER_CO 6 (523959) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1 b.4. HARRNG_MID 6 (523978) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #
GROUP5_P4_LOCAL_FAULT_132	P4	Single Phase Fault with Stuck Breaker on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply Fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to HARRNGTON2 1 (523972) 24.0 kV Two Winding #1 b.2. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2 b.3. HARRNG_MID 6 (523978) 230.0 kV to RANDALL 6 (524365) 230.0 kV Transmission Circuit #1 b.4. HARRNG_WST 6 (523977) 230.0 kV to HARRNG_MID 6 (523978) 230.0 kV Transmission Circuit # b.5. HARRNG_MID 6 (523978) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #
GROUP5_P4_LOCAL_FAULT_133	P4	Single Phase Fault with Stuck Breaker on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply Fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1 b.2. EAST_PLANT 6 (524163) 230.0 kV to EAST_PLANT 3 (524162) 115.0 kV to EPLANT_TR3 1 (524160) 13.2 kV Three Winding #1 b.4. HARRNG_WST 6 (523977) 230.0 kV to HARRNGTON1 1 (523971) 24.0 kV Two Winding #1 b.5. HARRNG_WST 6 (523977) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1 b.6. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1 b.7. HARRNG_WST 6 (523977) 230.0 kV to HARRNG_MID 6 (523978) 230.0 kV Transmission Circuit #
GROUP5_P4_LOCAL_FAULT_134	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCH_TR1N 1 (523540) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV Three Winding #1 b.2. HUTCH_TR2S 1 (523541) 13.2 kV to HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV Three Winding #1 b.3. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_135	P4	Single Phase Fault with Stuck Breaker on XIT_INTG 6230.00 (523221) 230 kV Bus a. Apply Fault at the XIT_INTG 6230.00 (523221) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. XIT_INTG TR1 (523219) 13.2 kV to XIT_INTG 6 (523221) 230.0 kV to XIT_INTG 3 (523220) 115.0 kV Three Winding #1 b.2. XIT_INTG 6 (523221) 230.0 kV to CHAN+TASCOS6 (523869) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_136	P4	Single Phase Fault with Stuck Breaker on CLINTJC4 138.00 (511485) 138 kV Bus a. Apply Fault at the CLINTJC4 138.00 (511485) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to CLINTJC4 (511485) 138.0 kV Transmission Circuit #1 b.2. CLINTJC2 (511484) 69.0 kV to CLINTJC4 (511485) 138.0 kV to CLINT1-1 (511499) 13.8 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_137	P4	Single Phase Fault with Stuck Breaker on CLINTJC4 138.00 (511485) 138 kV Bus a. Apply Fault at the CLINTJC4 138.00 (511485) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to CLINTJC4 (511485) 138.0 kV Transmission Circuit #1 b.2. CLINTJC4 (511485) 138.0 kV to CLINTON4 (520856) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_138	P4	Single Phase Fault with Stuck Breaker on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply Fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to ELKCITY6 (511490) 230.0 kV to ELKC2-1 (511482) 13.8 kV Three Winding #1 b.4. ELKCTY-2 (511459) 69.0 kV to ELKCTY-4 (511458) 138.0 kV to ELKC4-1 (511493) 13.8 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_139	P4	Single Phase Fault with Stuck Breaker on ELKCITY6 230.00 (511490) 230 kV Bus a. Apply Fault at the ELKCITY6 230.00 (511490) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to ELKCITY6 (511490) 230.0 kV to ELKC2-1 (511482) 13.8 kV Three Winding #1 b.4. ELKCTY-4 (511458) 138.0 kV to FALCNRD4 (511511) 138.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_140	P4	Single Phase Fault with Stuck Breaker on CL-AFTP4 138.00 (511446) 138 kV Bus a. Apply Fault at the CL-AFTP4 138.00 (511446) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CL-AFTP4 (511446) 138.0 kV to ELKCTY-4 (511458) 138.0 kV Transmission Circuit #1 b.2. CL-AFTP4 (511446) 138.0 kV to HOB-JCT4 (511463) 138.0 kV Transmission Circuit #1 b.3. ELKCTY-4 (511458) 138.0 kV to FALCNRD4 (511511) 138.0 kV Transmission Circuit #1 b.4. SAYRE--4 (511504) 138.0 kV to FALCNRD4 (511511) 138.0 kV Transmission Circuit #1 b.5. SAYRE--4 (511504) 138.0 kV to ERICK 4 (520903) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_141	P4	Single Phase Fault with Stuck Breaker on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply Fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to CLINTJ4 (511485) 138.0 kV Transmission Circuit #1 b.2. CL-AFTP4 (511446) 138.0 kV to ELKCTY-4 (511458) 138.0 kV Transmission Circuit #1 b.3. CL-AFTP4 (511446) 138.0 kV to HOB-JCT4 (511463) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_142	P4	Single Phase Fault with Stuck Breaker on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply Fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to REDHLSW4 (521116) 138.0 kV Transmission Circuit #1 b.2. ELKCTY-4 (511458) 138.0 kV to CLINTJ4 (511485) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_143	P4	Single Phase Fault with Stuck Breaker on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply Fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-2 (511459) 69.0 kV to ELKCTY-4 (511458) 138.0 kV to ELKC4-1 (511493) 13.8 kV Three Winding #1 b.4. ELKCTY-4 (511458) 138.0 kV to REDHLSW4 (521116) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_144	P4	Single Phase Fault with Stuck Breaker on CL-AFTP4 138.00 (511446) 138 kV Bus a. Apply Fault at the CL-AFTP4 138.00 (511446) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CL-AFTP4 (511446) 138.0 kV to HOB-JCT4 (511463) 138.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_145	P4	Single Phase Fault with Stuck Breaker on ERICK 4 138.00 (520903) 138 kV Bus a. Apply Fault at the ERICK 4 138.00 (520903) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SAYRE--4 (511504) 138.0 kV to ERICK 4 (520903) 138.0 kV Transmission Circuit #1 b.2. BULOJ4 (520402) 138.0 kV to ERICK 4 (520903) 138.0 kV Transmission Circuit #1 b.3. MORWODS4 (521001) 138.0 kV to MORWOOD4 (521002) 138.0 kV Transmission Circuit #1 b.4. ELKCTY-4 (511458) 138.0 kV to FALCNRD4 (511511) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_146	P4	Single Phase Fault with Stuck Breaker on REDHLSW4 138.00 (521116) 138 kV Bus a. Apply Fault at the REDHLSW4 138.00 (521116) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELLIS 4 (511561) 138.0 kV to MORWODS4 (521001) 138.0 kV Transmission Circuit #1 b.2. CUSTER 4 (520459) 138.0 kV to REDHLSW4 (521116) 138.0 kV Transmission Circuit #1 b.3. ELKCTY-4 (511458) 138.0 kV to REDHLSW4 (521116) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_147	P4	Single Phase Fault with Stuck Breaker on REDHLSW4 138.00 (521116) 138 kV Bus a. Apply Fault at the REDHLSW4 138.00 (521116) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to REDHLSW4 (521116) 138.0 kV Transmission Circuit #1 b.2. REDHLSW4 (521116) 138.0 kV to RHWIND 4 (521117) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_148	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to DEMPSEY6 (511544) 230.0 kV Transmission Circuit #1 b.2. SWEETWT6 (511541) 230.0 kV to BUFFCK6 (511542) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_149	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to DEMPSEY6 (511544) 230.0 kV Transmission Circuit #1 b.2. SWEETWT6 (511541) 230.0 kV to None Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_150	P4	Single Phase Fault with Stuck Breaker on WINDFRM4 138.00 (515785) 138 kV Bus a. Apply Fault at the WINDFRM4 138.00 (515785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WINDFRM4 (515785) 138.0 kV to MOORLND4 (520999) 138.0 kV Transmission Circuit #1 b.2. WINDFRM4 (515785) 138.0 kV to FPLWIND4 (515786) 138.0 kV Transmission Circuit #1 b.3. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1 b.4. ASPEN 4 (520462) 138.0 kV to MOORLND4 (520999) 138.0 kV Transmission Circuit #1 b.5. MORWODS4 (521001) 138.0 kV to NINMLTP4 (521128) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_151	P4	Single Phase Fault with Stuck Breaker on TREASILD7 345.00 (511409) 345 kV Bus a. Apply Fault at the TREASILD7 345.00 (511409) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TREASILD7 (511409) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_152	P4	Single Phase Fault with Stuck Breaker on TREASILD7 345.00 (511409) 345 kV Bus a. Apply Fault at the TREASILD7 345.00 (511409) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TREASILD7 (511409) 345.0 kV to GEN-2016-091 (587740) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_153	P4	Single Phase Fault with Stuck Breaker on TREASILD7 345.00 (511409) 345 kV Bus a. Apply Fault at the TREASILD7 345.00 (511409) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TREASILD7 (511409) 345.0 kV to GEN-2016-095 (587770) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_154	P4	Single Phase Fault with Stuck Breaker on TREASILD7 345.00 (511409) 345 kV Bus a. Apply Fault at the TREASILD7 345.00 (511409) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TREASILD7 (511409) 345.0 kV to G20-087-TAP (764550) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_155	P4	Single Phase Fault with Stuck Breaker on CL-AFTP4 138.00 (511446) 138 kV Bus a. Apply Fault at the CL-AFTP4 138.00 (511446) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CL-AFTP4 (511446) 138.0 kV to ELKCTY-4 (511458) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_156	P4	Single Phase Fault with Stuck Breaker on CL-AFTP4 138.00 (511446) 138 kV Bus a. Apply Fault at the CL-AFTP4 138.00 (511446) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CL-AFTP4 (511446) 138.0 kV to CLIN-AF4 (511535) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_157	P4	Single Phase Fault with Stuck Breaker on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply Fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to CLINTJC4 (511485) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_158	P4	Single Phase Fault with Stuck Breaker on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply Fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to FALCNRD4 (511511) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_159	P4	Single Phase Fault with Stuck Breaker on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply Fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to REDHLSW4 (521116) 138.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_160	P4	Single Phase Fault with Stuck Breaker on ELKCITY6 230.00 (511490) 230 kV Bus a. Apply Fault at the ELKCITY6 230.00 (511490) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCITY6 (511490) 230.0 kV to CHISHOLM6 (511557) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_161	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to BUFFCK6 (511542) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_162	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to DEMPSEY6 (511544) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_163	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to None Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_164	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to CHISHOLM6 (511557) 230.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_165	P4	Single Phase Fault with Stuck Breaker on SWEETWT6 230.00 (511541) 230 kV Bus a. Apply Fault at the SWEETWT6 230.00 (511541) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. SWEETWT6 (511541) 230.0 kV to STLN-DEMARC6 (523779) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_166	P4	Single Phase Fault with Stuck Breaker on CHISHOLM7 345.00 (511553) 345 kV Bus a. Apply Fault at the CHISHOLM7 345.00 (511553) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CHISHOLM7 (511553) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_167	P4	Single Phase Fault with Stuck Breaker on CHISHOLM7 345.00 (511553) 345 kV Bus a. Apply Fault at the CHISHOLM7 345.00 (511553) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CHISHOLM7 (511553) 345.0 kV to G16-037-TAP (560078) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_168	P4	Single Phase Fault with Stuck Breaker on WOODWRD4 138.00 (514785) 138 kV Bus a. Apply Fault at the WOODWRD4 138.00 (514785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WOODWRD4 (514785) 138.0 kV to CENT 4 (515363) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_169	P4	Single Phase Fault with Stuck Breaker on WOODWRD4 138.00 (514785) 138 kV Bus a. Apply Fault at the WOODWRD4 138.00 (514785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WOODWRD4 (514785) 138.0 kV to WINDFRM4 (515785) 138.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_170	P4	Single Phase Fault with Stuck Breaker on IODINE-4 138.00 (514796) 138 kV Bus a. Apply Fault at the IODINE-4 138.00 (514796) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. IODINE-4 (514796) 138.0 kV to WWRDEHV4 (515376) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_171	P4	Single Phase Fault with Stuck Breaker on IODINE-4 138.00 (514796) 138 kV Bus a. Apply Fault at the IODINE-4 138.00 (514796) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. IODINE-4 (514796) 138.0 kV to REDCLFT4 (515533) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_172	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to CIMARON7 (514901) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_173	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to MCNOWND7 (515444) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_174	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to MNCWND37 (515549) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_175	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_176	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to NORMHLL7 (516096) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_177	P4	Single Phase Fault with Stuck Breaker on MINCO 7 345.00 (514801) 345 kV Bus a. Apply Fault at the MINCO 7 345.00 (514801) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MINCO 7 (514801) 345.0 kV to GEN-2017-233 (761250) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_178	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to TATONGA7 (515407) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_179	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to TATONGA7 (515407) 345.0 kV Transmission Circuit #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_180	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_181	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to DGRASSE7 (515852) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_182	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to GUTHRIE7 (515961) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_183	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_184	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_185	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_186	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to GEN-2019-012 (763527) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_187	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to GEN-2022-012 (767221) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_188	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV7 (515375) 345.0 kV to GEN-2022-016 (767301) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_189	P4	Single Phase Fault with Stuck Breaker on WWRDEHV4 138.00 (515376) 138 kV Bus a. Apply Fault at the WWRDEHV4 138.00 (515376) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to KEENAN 4 (515394) 138.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_190	P4	Single Phase Fault with Stuck Breaker on WWRDEHV4 138.00 (515376) 138 kV Bus a. Apply Fault at the WWRDEHV4 138.00 (515376) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to OUSPRT 4 (515398) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_191	P4	Single Phase Fault with Stuck Breaker on WWRDEHV4 138.00 (515376) 138 kV Bus a. Apply Fault at the WWRDEHV4 138.00 (515376) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to WWDPST 4 (515425) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_192	P4	Single Phase Fault with Stuck Breaker on TATONGA7 345.00 (515407) 345 kV Bus a. Apply Fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TATONGA7 (515407) 345.0 kV to CRSRDSW7 (515448) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_193	P4	Single Phase Fault with Stuck Breaker on TATONGA7 345.00 (515407) 345 kV Bus a. Apply Fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TATONGA7 (515407) 345.0 kV to MATHWSN7 (515497) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_194	P4	Single Phase Fault with Stuck Breaker on TATONGA7 345.00 (515407) 345 kV Bus a. Apply Fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TATONGA7 (515407) 345.0 kV to MATHWSN7 (515497) 345.0 kV Transmission Circuit #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_195	P4	Single Phase Fault with Stuck Breaker on TATONGA7 345.00 (515407) 345 kV Bus a. Apply Fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TATONGA7 (515407) 345.0 kV to SLNGWND7 (515582) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_196	P4	Single Phase Fault with Stuck Breaker on TATONGA7 345.00 (515407) 345 kV Bus a. Apply Fault at the TATONGA7 345.00 (515407) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TATONGA7 (515407) 345.0 kV to MAMTHPW7 (515585) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_197	P4	Single Phase Fault with Stuck Breaker on BORDER 7345.00 (515458) 345 kV Bus a. Apply Fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BORDER 7 (515458) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_198	P4	Single Phase Fault with Stuck Breaker on BORDER 7345.00 (515458) 345 kV Bus a. Apply Fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BORDER 7 (515458) 345.0 kV to BECKHAM7 (516059) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_199	P4	Single Phase Fault with Stuck Breaker on BORDER 7345.00 (515458) 345 kV Bus a. Apply Fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BORDER 7 (515458) 345.0 kV to TUCO_INT 7 (525832) 345.0 kV Transmission Circuit #1



FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_200	P4	Single Phase Fault with Stuck Breaker on BORDER 7345.00 (515458) 345 kV Bus a. Apply Fault at the BORDER 7345.00 (515458) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BORDER 7 (515458) 345.0 kV to G17-151TAP (762216) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_201	P4	Single Phase Fault with Stuck Breaker on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply Fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to PALDR2W7 (515590) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_202	P4	Single Phase Fault with Stuck Breaker on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply Fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to BALKOW 7 (515618) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_203	P4	Single Phase Fault with Stuck Breaker on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply Fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_204	P4	Single Phase Fault with Stuck Breaker on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply Fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_205	P4	Single Phase Fault with Stuck Breaker on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply Fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to HITCHLAND 7 (523097) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_206	P4	Single Phase Fault with Stuck Breaker on BVRCNTY7 345.00 (515554) 345 kV Bus a. Apply Fault at the BVRCNTY7 345.00 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to HITCHLAND 7 (523097) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_207	P4	Single Phase Fault with Stuck Breaker on BADGER 7 345.00 (515677) 345 kV Bus a. Apply Fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BADGER 7 (515677) 345.0 kV to BLUWND 7 (515686) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_208	P4	Single Phase Fault with Stuck Breaker on BADGER 7 345.00 (515677) 345 kV Bus a. Apply Fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BADGER 7 (515677) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_209	P4	Single Phase Fault with Stuck Breaker on BADGER 7 345.00 (515677) 345 kV Bus a. Apply Fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BADGER 7 (515677) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_210	P4	Single Phase Fault with Stuck Breaker on BADGER 7 345.00 (515677) 345 kV Bus a. Apply Fault at the BADGER 7 345.00 (515677) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BADGER 7 (515677) 345.0 kV to GEN-2015-082 (585190) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_211	P4	Single Phase Fault with Stuck Breaker on GRACMNT7 345.00 (515800) 345 kV Bus a. Apply Fault at the GRACMNT7 345.00 (515800) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRACMNT7 (515800) 345.0 kV to G16-037-TAP (560078) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_212	P4	Single Phase Fault with Stuck Breaker on GRTWSRN7 345.00 (515825) 345 kV Bus a. Apply Fault at the GRTWSRN7 345.00 (515825) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRTWSRN7 (515825) 345.0 kV to GUTHRIE7 (515961) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_213	P4	Single Phase Fault with Stuck Breaker on DGRASSE7 345.00 (515852) 345 kV Bus a. Apply Fault at the DGRASSE7 345.00 (515852) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. DGRASSE7 (515852) 345.0 kV to THISTLE7 (539801) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_214	P4	Single Phase Fault with Stuck Breaker on DGRASSE7 345.00 (515852) 345 kV Bus a. Apply Fault at the DGRASSE7 345.00 (515852) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. DGRASSE7 (515852) 345.0 kV to THISTLE7 (539801) 345.0 kV Transmission Circuit #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_215	P4	Single Phase Fault with Stuck Breaker on PERSIMN7 345.00 (515951) 345 kV Bus a. Apply Fault at the PERSIMN7 345.00 (515951) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. PERSIMN7 (515951) 345.0 kV to GUTHRIE7 (515961) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_216	P4	Single Phase Fault with Stuck Breaker on PERSIMN7 345.00 (515951) 345 kV Bus a. Apply Fault at the PERSIMN7 345.00 (515951) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. PERSIMN7 (515951) 345.0 kV to PRSIMN_CRK2 (585440) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_217	P4	Single Phase Fault with Stuck Breaker on BECKHAM7 345.00 (516059) 345 kV Bus a. Apply Fault at the BECKHAM7 345.00 (516059) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BECKHAM7 (516059) 345.0 kV to POTTER_CO 7 (523961) 345.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_218	P4	Single Phase Fault with Stuck Breaker on 25MILE 7 345.00 (516146) 345 kV Bus a. Apply Fault at the 25MILE 7 345.00 (516146) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. 25MILE 7 (516146) 345.0 kV to 25MILZ 7 (516159) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_219	P4	Single Phase Fault with Stuck Breaker on 25MILE 7 345.00 (516146) 345 kV Bus a. Apply Fault at the 25MILE 7 345.00 (516146) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. 25MILE 7 (516146) 345.0 kV to G16-003-TAP (560071) 345.0 kV Transmission Circuit #1



FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_220	P4	Single Phase Fault with Stuck Breaker on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply Fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HITCHLAND 7 (523097) 345.0 kV to NOBLE_WND 7 (523101) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_221	P4	Single Phase Fault with Stuck Breaker on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply Fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HITCHLAND 7 (523097) 345.0 kV to NOVUS1 7 (523112) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_222	P4	Single Phase Fault with Stuck Breaker on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply Fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HITCHLAND 7 (523097) 345.0 kV to CARPENTER 7 (523823) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_223	P4	Single Phase Fault with Stuck Breaker on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply Fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HITCHLAND 7 (523097) 345.0 kV to POTTER_CO 7 (523961) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_224	P4	Single Phase Fault with Stuck Breaker on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply Fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HITCHLAND 7 (523097) 345.0 kV to G10014G11022 (576397) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_225	P4	Single Phase Fault with Stuck Breaker on XIT_INTG 6230.00 (523221) 230 kV Bus a. Apply Fault at the XIT_INTG 6230.00 (523221) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. XIT_INTG 6 (523221) 230.0 kV to CHAN+TASCOS6 (523869) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_226	P4	Single Phase Fault with Stuck Breaker on MOORE_CNTY 6230.00 (523309) 230 kV Bus a. Apply Fault at the MOORE_CNTY 6230.00 (523309) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MOORE_CNTY 6 (523309) 230.0 kV to MCDWL_CREEK6 (523323) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_227	P4	Single Phase Fault with Stuck Breaker on MCDWL_CREEK6 6230.00 (523323) 230 kV Bus a. Apply Fault at the MCDWL_CREEK6 6230.00 (523323) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MCDWL_CREEK6 (523323) 230.0 kV to POTTER_CO 6 (523959) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_228	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCHISON 6 (523551) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_229	P4	Single Phase Fault with Stuck Breaker on BOWERS 3115.00 (523748) 115 kV Bus a. Apply Fault at the BOWERS 3115.00 (523748) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BOWERS 3 (523748) 115.0 kV to GRAPEVINE 3 (523770) 115.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_230	P4	Single Phase Fault with Stuck Breaker on BOWERS 3115.00 (523748) 115 kV Bus a. Apply Fault at the BOWERS 3115.00 (523748) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BOWERS 3 (523748) 115.0 kV to HOWARD 3 (523797) 115.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_231	P4	Single Phase Fault with Stuck Breaker on GRAPEVINE 3115.00 (523770) 115 kV Bus a. Apply Fault at the GRAPEVINE 3115.00 (523770) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 3 (523770) 115.0 kV to KIRBY 3 (524088) 115.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_232	P4	Single Phase Fault with Stuck Breaker on GRAPEVINE 6230.00 (523771) 230 kV Bus a. Apply Fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to WHEELER 6 (523777) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_233	P4	Single Phase Fault with Stuck Breaker on GRAPEVINE 6230.00 (523771) 230 kV Bus a. Apply Fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_234	P4	Single Phase Fault with Stuck Breaker on COBRN_CREEK3115.00 (523772) 115 kV Bus a. Apply Fault at the COBRN_CREEK3115.00 (523772) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. COBRN_CREEK3 (523772) 115.0 kV to WHEELER 3 (523776) 115.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_235	P4	Single Phase Fault with Stuck Breaker on WHEELER 3115.00 (523776) 115 kV Bus a. Apply Fault at the WHEELER 3115.00 (523776) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WHEELER 3 (523776) 115.0 kV to HOWARD 3 (523797) 115.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_236	P4	Single Phase Fault with Stuck Breaker on WHEELER 6230.00 (523777) 230 kV Bus a. Apply Fault at the WHEELER 6230.00 (523777) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WHEELER 6 (523777) 230.0 kV to STLN-DEMARC6 (523779) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_237	P4	Single Phase Fault with Stuck Breaker on CHAN+TASCOS6230.00 (523869) 230 kV Bus a. Apply Fault at the CHAN+TASCOS6230.00 (523869) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CHAN+TASCOS6 (523869) 230.0 kV to POTTER_CO 6 (523959) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_238	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 6230.00 (523959) 230 kV Bus a. Apply Fault at the POTTER_CO 6230.00 (523959) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 6 (523959) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_239	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 6230.00 (523959) 230 kV Bus a. Apply Fault at the POTTER_CO 6230.00 (523959) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 6 (523959) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_240	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 6230.00 (523959) 230 kV Bus a. Apply Fault at the POTTER_CO 6230.00 (523959) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 6 (523959) 230.0 kV to BUSHLAND 6 (524267) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_241	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 6230.00 (523959) 230 kV Bus a. Apply Fault at the POTTER_CO 6230.00 (523959) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 6 (523959) 230.0 kV to NEWHART 6 (525461) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_242	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply Fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 7 (523961) 345.0 kV to SPNSPUR_WND7 (524296) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_243	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply Fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 7 (523961) 345.0 kV to TOLK 7 (525549) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_244	P4	Single Phase Fault with Stuck Breaker on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply Fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to ROLLHILLS 6 (524010) 230.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_245	P4	Single Phase Fault with Stuck Breaker on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply Fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_246	P4	Single Phase Fault with Stuck Breaker on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply Fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to EAST_PLANT 6 (524163) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_247	P4	Single Phase Fault with Stuck Breaker on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply Fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to NICHOLS 6 (524044) 230.0 kV Transmission Circuit #2
GROUP5_P4_LOCAL_FAULT_248	P4	Single Phase Fault with Stuck Breaker on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply Fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to RANDALL 6 (524365) 230.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_249	P4	Single Phase Fault with Stuck Breaker on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply Fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. NICHOLS 6 (524044) 230.0 kV to AMA_SOUTH 6 (524415) 230.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_250	P4	Single Phase Fault with Stuck Breaker on TOLK 7345.00 (525549) 345 kV Bus a. Apply Fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TOLK 7 (525549) 345.0 kV to CROSSROADS 7 (527656) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_251	P4	Single Phase Fault with Stuck Breaker on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply Fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TUCO_INT 7 (525832) 345.0 kV to ELK_CT1 (525850) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_252	P4	Single Phase Fault with Stuck Breaker on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply Fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TUCO_INT 7 (525832) 345.0 kV to G17-151TAP (762216) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_253	P4	Single Phase Fault with Stuck Breaker on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply Fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TUCO_INT 7 (525832) 345.0 kV to G20-067-TAP (764945) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_254	P4	Single Phase Fault with Stuck Breaker on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply Fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TUCO_INT 7 (525832) 345.0 kV to GEN-2022-147 (769921) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_255	P4	Single Phase Fault with Stuck Breaker on G16-003-TAP 345.00 (560071) 345 kV Bus a. Apply Fault at the G16-003-TAP 345.00 (560071) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. G16-003-TAP (560071) 345.0 kV to GEN-2017-011 (588560) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_256	P4	Single Phase Fault with Stuck Breaker on G16-003-TAP 345.00 (560071) 345 kV Bus a. Apply Fault at the G16-003-TAP 345.00 (560071) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. G16-003-TAP (560071) 345.0 kV to GEN-2021-015 (765440) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_257	P4	Single Phase Fault with Stuck Breaker on G16-037-TAP 345.00 (560078) 345 kV Bus a. Apply Fault at the G16-037-TAP 345.00 (560078) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. G16-037-TAP (560078) 345.0 kV to GEN-2016-037 (587230) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_258	P4	Single Phase Fault with Stuck Breaker on G17-151TAP 345.00 (762216) 345 kV Bus a. Apply Fault at the G17-151TAP 345.00 (762216) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. G17-151TAP (762216) 345.0 kV to GEN-2017-151 (762217) 345.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_259	P4	Single Phase Fault with Stuck Breaker on G17-151TAP 345.00 (762216) 345 kV Bus a. Apply Fault at the G17-151TAP 345.00 (762216) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. G17-151TAP (762216) 345.0 kV to G18-015-TAP (762467) 345.0 kV Transmission Circuit #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_260	P4	Single Phase Fault with Stuck Breaker on HARRNG_WST 6230.00 (523977) 230 kV Bus a. Apply Fault at the HARRNG_WST 6230.00 (523977) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_WST 6 (523977) 230.0 kV to HARRNG_MID 6 (523978) 230.0 kV Transmission Circuit #
GROUP5_P4_LOCAL_FAULT_261	P4	Single Phase Fault with Stuck Breaker on HARRNG_MID 6230.00 (523978) 230 kV Bus a. Apply Fault at the HARRNG_MID 6230.00 (523978) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HARRNG_MID 6 (523978) 230.0 kV to HARRNG_EST 6 (523979) 230.0 kV Transmission Circuit #
GROUP5_P4_LOCAL_FAULT_262	P4	Single Phase Fault with Stuck Breaker on ELKCITY6 230.00 (511490) 230 kV Bus a. Apply Fault at the ELKCITY6 230.00 (511490) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-4 (511458) 138.0 kV to ELKCITY6 (511490) 230.0 kV to ELKC2-1 (511482) 13.8 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_263	P4	Single Phase Fault with Stuck Breaker on ELKCTY-4 138.00 (511458) 138 kV Bus a. Apply Fault at the ELKCTY-4 138.00 (511458) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. ELKCTY-2 (511459) 69.0 kV to ELKCTY-4 (511458) 138.0 kV to ELKC4-1 (511493) 13.8 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_264	P4	Single Phase Fault with Stuck Breaker on CHISHOLM7 345.00 (511553) 345 kV Bus a. Apply Fault at the CHISHOLM7 345.00 (511553) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. CHISHOLM6 (511557) 230.0 kV to CHISHOLM7 (511553) 345.0 kV to CHISHOLM1 (511558) 13.2 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_265	P4	Single Phase Fault with Stuck Breaker on WWDPST 4 138.00 (515425) 138 kV Bus a. Apply Fault at the WWDPST 4 138.00 (515425) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWDPST 4 (515425) 138.0 kV to WOODWRD4 (514785) 138.0 kV Transmission Circuit #1
GROUP5_P4_LOCAL_FAULT_266	P4	Single Phase Fault with Stuck Breaker on WOODWRD4 138.00 (514785) 138 kV Bus a. Apply Fault at the WOODWRD4 138.00 (514785) 138 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WOODWRD4 (514785) 138.0 kV to WODWRD 2 (514782) 69.0 kV to WOODWR21 (515771) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_267	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to WWRDEHV7 (515375) 345.0 kV to WWDEHV31 (515795) 13.8 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_268	P4	Single Phase Fault with Stuck Breaker on WWRDEHV7 345.00 (515375) 345 kV Bus a. Apply Fault at the WWRDEHV7 345.00 (515375) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WWRDEHV4 (515376) 138.0 kV to WWRDEHV7 (515375) 345.0 kV to WWDEHV21 (515799) 13.8 kV Three Winding #2
GROUP5_P4_LOCAL_FAULT_269	P4	Single Phase Fault with Stuck Breaker on GRACMNT7 345.00 (515800) 345 kV Bus a. Apply Fault at the GRACMNT7 345.00 (515800) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRACMNT4 (515802) 138.0 kV to GRACMNT7 (515800) 345.0 kV to GRCMNT11 (515801) 13.8 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_270	P4	Single Phase Fault with Stuck Breaker on DGRASSE7 345.00 (515852) 345 kV Bus a. Apply Fault at the DGRASSE7 345.00 (515852) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. DGRASSE4 (515853) 138.0 kV to DGRASSE7 (515852) 345.0 kV to DGRASSE1 (515854) 13.8 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_271	P4	Single Phase Fault with Stuck Breaker on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply Fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HITCHLAND 7 (523097) 345.0 kV to HITCHLAND 6 (523095) 230.0 kV to HITCHLD_TR01 (523091) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_272	P4	Single Phase Fault with Stuck Breaker on HITCHLAND 7345.00 (523097) 345 kV Bus a. Apply Fault at the HITCHLAND 7345.00 (523097) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HITCHLAND 7 (523097) 345.0 kV to HITCHLAND 6 (523095) 230.0 kV to HITCHLD_TR21 (523094) 13.2 kV Three Winding #2
GROUP5_P4_LOCAL_FAULT_273	P4	Single Phase Fault with Stuck Breaker on MCDWL_CREEK6230.00 (523323) 230 kV Bus a. Apply Fault at the MCDWL_CREEK6230.00 (523323) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. MCDWL_CREEK6 (523323) 230.0 kV to MCDWL_CREEK3 (523322) 115.0 kV to MCDWL_CRKTR1 (523321) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_274	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCHISON 6 (523551) 230.0 kV to HUTCH_N 3 (523544) 115.0 kV to HUTCH_TR1N 1 (523540) 13.2 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_275	P4	Single Phase Fault with Stuck Breaker on HUTCHISON 6230.00 (523551) 230 kV Bus a. Apply Fault at the HUTCHISON 6230.00 (523551) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. HUTCHISON 6 (523551) 230.0 kV to HUTCH_S 3 (523546) 115.0 kV to HUTCH_TR2S 1 (523541) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_276	P4	Single Phase Fault with Stuck Breaker on BOWERS 3115.00 (523748) 115 kV Bus a. Apply Fault at the BOWERS 3115.00 (523748) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BOWERS 3 (523748) 115.0 kV to BOWERS 2 (523747) 69.0 kV to BOWERS_TR2 1 (523745) 13.2 kV Three Winding #2
GROUP5_P4_LOCAL_FAULT_277	P4	Single Phase Fault with Stuck Breaker on BOWERS 3115.00 (523748) 115 kV Bus a. Apply Fault at the BOWERS 3115.00 (523748) 115 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BOWERS 3 (523748) 115.0 kV to BOWERS 2 (523747) 69.0 kV to BOWERS_TR1 1 (523746) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_278	P4	Single Phase Fault with Stuck Breaker on GRAPEVINE 6230.00 (523771) 230 kV Bus a. Apply Fault at the GRAPEVINE 6230.00 (523771) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. GRAPEVINE 6 (523771) 230.0 kV to GRAPEVINE 3 (523770) 115.0 kV to GRAPEVN_TR11 (523769) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_279	P4	Single Phase Fault with Stuck Breaker on WHEELER 6230.00 (523777) 230 kV Bus a. Apply Fault at the WHEELER 6230.00 (523777) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. WHEELER 6 (523777) 230.0 kV to WHEELER 3 (523776) 115.0 kV to WHEELER_TR11 (523774) 13.2 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_280	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply Fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #1
GROUP5_P4_LOCAL_FAULT_281	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply Fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV Two Winding #2
GROUP5_P4_LOCAL_FAULT_282	P4	Single Phase Fault with Stuck Breaker on POTTER_CO 7345.00 (523961) 345 kV Bus a. Apply Fault at the POTTER_CO 7345.00 (523961) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. POTTER_CO 7 (523961) 345.0 kV to POTTER_CO 6 (523959) 230.0 kV to POTTER_TR 1 (523957) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_283	P4	Single Phase Fault with Stuck Breaker on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply Fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR11 (524041) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_284	P4	Single Phase Fault with Stuck Breaker on NICHOLS 6230.00 (524044) 230 kV Bus a. Apply Fault at the NICHOLS 6230.00 (524044) 230 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. NICHOLS 6 (524044) 230.0 kV to NICHOLS 3 (524043) 115.0 kV to NICHOLS_TR21 (524042) 13.2 kV Three Winding #2

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
GROUP5_P4_LOCAL_FAULT_285	P4	Single Phase Fault with Stuck Breaker on TOLK 7345.00 (525549) 345 kV Bus a. Apply Fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TOLK 7 (525549) 345.0 kV to TOLK 6 (525531) 230.0 kV to TOLK_TR 2 1 (525538) 13.2 kV Three Winding #2
GROUP5_P4_LOCAL_FAULT_286	P4	Single Phase Fault with Stuck Breaker on TOLK 7345.00 (525549) 345 kV Bus a. Apply Fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TOLK 7 (525549) 345.0 kV to TOLK 6 (525531) 230.0 kV to TOLK_TR 1 (525537) 13.2 kV Three Winding #1
GROUP5_P4_LOCAL_FAULT_287	P4	Single Phase Fault with Stuck Breaker on TOLK 7345.00 (525549) 345 kV Bus a. Apply Fault at the TOLK 7345.00 (525549) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TOLK 7 (525549) 345.0 kV to TOLK 6 (525531) 230.0 kV to TOLK_TR 2 1 (526938) 13.2 kV Three Winding #2
GROUP5_P4_LOCAL_FAULT_288	P4	Single Phase Fault with Stuck Breaker on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply Fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TUCO_INT 7 (525832) 345.0 kV to TUCO_INT 6 (525830) 230.0 kV to TUCO_TR2 1 (525825) 13.2 kV Three Winding #2
GROUP5_P4_LOCAL_FAULT_289	P4	Single Phase Fault with Stuck Breaker on TUCO_INT 7345.00 (525832) 345 kV Bus a. Apply Fault at the TUCO_INT 7345.00 (525832) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TUCO_INT 7 (525832) 345.0 kV to TUCO_INT 6 (525830) 230.0 kV to TUCO_TR1 1 (525824) 13.2 kV Three Winding #1

FAULT ID	PLANNING EVENT	FAULT DESCRIPTION
P4_GROUP4_P4_OKGE_FAULT_001	P4	Single Phase Fault with Stuck Breaker on BVRCNTY7 (515554) 345 kV Bus a. Apply Fault at the BVRCNTY7 (515554) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BVRCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #1 b.2. BVRCNTY7 (515554) 345.0 kV to BADGER 7 (515677) 345.0 kV Transmission Circuit #2
P4_GROUP4_P4_OKGE_FAULT_002	P4	Single Phase Fault with Stuck Breaker on GRACMNT7 (515800) 345 kV Bus a. Apply Fault at the GRACMNT7 (515800) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. TREASILD7 (511409) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1 b.2. MINCO 7 (514801) 345.0 kV to GRACMNT7 (515800) 345.0 kV Transmission Circuit #1
P4_GROUP4_P4_OKGE_FAULT_003	P4	Single Phase Fault with Stuck Breaker on BORDER 7 (515458) 345 kV Bus a. Apply Fault at the BORDER 7 (515458) 345 kV Bus b. Clear Fault after 16 cycles and trip the following elements: b.1. BECKHAM7 (516059) 345.0 kV to BORDER 7 (515458) 345.0 kV Transmission Circuit #1 b.2. BORDER 7 (515458) 345.0 kV to TUCO_INT 7 (525832) 345.0 kV Transmission Circuit #1 b.3. BORDER 7 (515458) 345.0 kV to remove bus #
P4_GROUP4_P4_OKGE_FAULT_004	P4	Single Phase Fault with Stuck Breaker on WODWRD 2 (514782) 69 kV Bus a. Apply Fault at the WODWRD 2 (514782) 69 kV Bus b. Trip the following elements after 56.88 cycles: b.1. WINDFRM4 (515785) 138.0 kV to WOODWRD4 (514785) 138.0 kV Transmission Circuit #1 c. Trip the following elements after 19.32 cycles: c.1. WOODWRD4 (514785) 138.0 kV to WODWRD 2 (514782) 69.0 kV to WOODWR21 (515771) 13.2 kV Three Winding #2 d. Close the following elements after 0.66 cycles: d.1. WINDFRM4 (515785) 138.0 kV to WOODWRD4 (514785) 138.0 kV Transmission Circuit #1 e. Trip the following elements after 49.74 cycles: e.4. WODWRD 2 (514782) 69.0 kV to CEDARAV2 (514781) 69.0 kV Transmission Circuit #1 f. Clear Fault after 7.14 cycles and trip the following elements: f.1. WINDFRM4 (515785) 138.0 kV to WOODWRD4 (514785) 138.0 kV Transmission Circuit #1 g. Wait 12.84 cycles, and then reclose the following faulted elements back into the Fault g.1. WODWRD 2 (514782) 69.0 kV to CEDARAV2 (514781) 69.0 kV Transmission Circuit #1 h. Leave Fault on for 126.6 cycles, then trip the faulted elements in (g) and clear the fault

# APPENDIX E: STABILITY ANALYSIS RESULT SUMMARY TABLES

**Table E-1: Scenario 1 Stability Analysis Summary of Results for 25SP and 25WP Conditions**

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_001	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_002	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_003	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_004	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_005	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_006	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_007	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_008	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_009	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_010	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_011	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_012	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_013	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_014	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_015	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_016	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_017	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_018	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_019	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_020	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_021	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_022	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_023	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_024	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_025	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_026	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_027	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_028	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_029	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_030	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_031	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_032	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_033	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_034	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_035	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_036	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_037	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_038	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_039	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_040	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_041	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_042	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_043	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_044	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_045	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_046	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_047	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_048	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_049	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_050	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_051	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_052	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_053	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_054	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_055	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_056	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_057	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_058	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_059	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_060	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_061	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_062	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_063	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_064	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_065	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_066	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_067	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_068	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_069	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_070	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_071	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_072	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_073	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_074	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_075	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_076	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_077	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_078	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_079	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_080	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_081	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_082	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_083	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_084	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_085	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_086	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_087	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_088	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_089	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_090	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_091	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_092	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_093	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_094	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_095	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_096	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_097	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_098	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_099	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_100	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_101	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_102	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_103	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_104	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_105	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_106	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_107	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_108	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_109	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_110	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_111	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_112	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_113	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_114	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_115	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_116	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_117	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_118	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_119	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_120	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_121	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_122	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_123	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_124	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_125	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_126	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_127	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_128	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_129	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_130	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_131	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_132	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_133	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_134	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_135	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_136	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_137	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_138	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_139	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_140	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_141	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_142	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_143	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_144	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_145	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_146	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_147	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_148	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_149	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_150	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_151	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_152	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_153	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_154	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_001	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_002	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_003	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_004	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_005	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_006	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_007	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_008	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_009	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_010	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_011	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_012	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_013	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_014	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_015	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_016	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_017	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_018	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_019	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_020	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_021	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_022	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_023	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_024	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_025	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_026	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_027	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_028	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_029	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_030	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_031	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_032	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_033	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_034	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_035	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_036	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_037	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_038	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_039	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_040	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_041	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_042	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_043	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_044	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_045	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_046	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_047	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_048	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_049	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_050	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_051	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_052	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_053	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_054	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_055	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_056	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_057	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_058	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_059	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_060	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_061	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_062	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_063	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_064	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_065	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_066	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_067	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_068	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_069	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_070	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_071	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_072	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_073	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_074	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_075	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_076	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_077	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_078	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_079	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_080	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_081	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_083	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_085	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_086	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_087	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_088	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_089	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_090	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_091	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_092	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_093	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_094	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_095	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_096	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_097	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_098	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_099	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_100	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_101	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_102	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_103	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_104	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_105	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_106	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_107	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_108	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_109	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_110	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_111	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_112	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_113	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_114	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_115	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_116	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_117	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_118	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_119	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_120	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_121	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_122	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_123	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_124	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_125	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_126	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_127	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_128	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_129	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_130	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_131	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_132	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_133	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_134	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_135	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_136	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_137	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_138	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_139	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_140	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_141	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_142	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_143	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_144	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_145	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_146	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_147	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_148	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_149	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_150	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_151	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_152	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_153	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_154	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_155	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_156	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_157	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_158	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_159	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_160	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_161	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_162	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_163	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_164	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_165	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_166	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_167	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_168	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_169	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_170	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_171	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_172	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_173	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_174	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_175	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_176	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_177	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_178	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_179	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_180	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_181	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_182	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_183	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_184	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_185	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_186	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_187	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_188	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_189	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_190	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_191	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_192	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_193	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_194	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_195	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_196	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_197	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_198	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_199	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_200	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_201	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_202	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_203	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_204	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_205	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_206	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_207	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_208	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_209	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_210	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_211	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_212	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_213	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_214	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_215	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_216	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_217	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_218	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_219	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_220	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_221	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_222	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_223	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_224	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_225	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_226	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_227	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_228	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_229	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_230	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_231	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_232	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_233	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_234	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_235	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_236	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_237	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_238	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_239	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_240	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_241	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_242	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_243	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_244	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_245	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_246	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_247	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_248	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_249	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_250	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_251	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_252	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_253	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_254	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_255	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_256	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_257	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_258	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_259	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_260	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_261	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_262	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_263	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_264	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_265	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_266	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_267	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_268	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_269	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_270	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_271	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_272	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_273	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_274	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_275	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_276	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_277	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_278	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_279	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_280	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_281	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_282	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_283	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_284	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_285	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_286	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_287	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_288	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_289	Pass	Pass	Stable	Pass	Pass	Stable
P4_GROUP4_P4_OKGE_FAULT_001	Pass	Pass	Stable	Pass	Pass	Stable
P4_GROUP4_P4_OKGE_FAULT_002	Pass	Pass	Stable	Pass	Pass	Stable
P4_GROUP4_P4_OKGE_FAULT_003	Pass	Pass	Stable	Pass	Pass	Stable
P4_GROUP4_P4_OKGE_FAULT_004	Pass	Pass	Stable	Pass	Pass	Stable

**Table E-2: Scenario 2 Stability Analysis Summary of Results for 25SP and 25WP Conditions**

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_001	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_002	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_003	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_004	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_005	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_006	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_007	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_008	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_009	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_010	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_011	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_012	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_013	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_014	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_015	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_016	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_017	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_018	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_019	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_020	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_021	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_022	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_023	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_024	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_025	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_026	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_027	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_028	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_029	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_030	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_031	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_032	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_033	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_034	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_035	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_036	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_037	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_038	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_039	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_040	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_041	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_042	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_043	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_044	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_045	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_046	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_047	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_048	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_049	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_050	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_051	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_052	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_053	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_054	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_055	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_056	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_057	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_058	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_059	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_060	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_061	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_062	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_063	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_064	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_065	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_066	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_067	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_068	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_069	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_070	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_071	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_072	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_073	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_074	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_075	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_076	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_077	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_078	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_079	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_080	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_081	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_082	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_083	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_084	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_085	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_086	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_087	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_088	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_089	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_090	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_091	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_092	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_093	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_094	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_095	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_096	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_097	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_098	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_099	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_100	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_101	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_102	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_103	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_104	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_105	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_106	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_107	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_108	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_109	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_110	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_111	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_112	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_113	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_114	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_115	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_116	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_117	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_118	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_119	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_120	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_121	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_122	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_123	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_124	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_125	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_126	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_127	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_128	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_129	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_130	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_131	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_132	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_133	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_134	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_135	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_136	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_137	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_138	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_139	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_140	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_141	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_142	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_143	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_144	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P1_LOCAL_FAULT_145	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_146	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_147	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_148	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_149	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_150	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_151	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_152	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_153	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P1_LOCAL_FAULT_154	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_001	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_002	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_003	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_004	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_005	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_006	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_007	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_008	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_009	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_010	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_011	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_012	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_013	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_014	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_015	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_016	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_017	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_018	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_019	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_020	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_021	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_022	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_023	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_024	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_025	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_026	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_027	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_028	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_029	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_030	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_031	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_032	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_033	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_034	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_035	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_036	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_037	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_038	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_039	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_040	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_041	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_042	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_043	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_044	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_045	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_046	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_047	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_048	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_049	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_050	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_051	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_052	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_053	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_054	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_055	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_056	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_057	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_058	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_059	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_060	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_061	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_062	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_063	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_064	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_065	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_066	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_067	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_068	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_069	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_070	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_071	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_072	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_073	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_074	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_075	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_076	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_077	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_078	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_079	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_080	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_081	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_083	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_085	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_086	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_087	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_088	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_089	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_090	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_091	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_092	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_093	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_094	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_095	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_096	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_097	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_098	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_099	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_100	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_101	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_102	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_103	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_104	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_105	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_106	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_107	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_108	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_109	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_110	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_111	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_112	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_113	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_114	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_115	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_116	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_117	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_118	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_119	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_120	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_121	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_122	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_123	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_124	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_125	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_126	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_127	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_128	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_129	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_130	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_131	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_132	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_133	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_134	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_135	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_136	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_137	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_138	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_139	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_140	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_141	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_142	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_143	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_144	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_145	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_146	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_147	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_148	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_149	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_150	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_151	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_152	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_153	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_154	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_155	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_156	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_157	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_158	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_159	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_160	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_161	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_162	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_163	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_164	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_165	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_166	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_167	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_168	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_169	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_170	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_171	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_172	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_173	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_174	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_175	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_176	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_177	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_178	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_179	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_180	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_181	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_182	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_183	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_184	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_185	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_186	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_187	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_188	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_189	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_190	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_191	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_192	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_193	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_194	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_195	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_196	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_197	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_198	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_199	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_200	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_201	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_202	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_203	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_204	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_205	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_206	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_207	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_208	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_209	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_210	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_211	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_212	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_213	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_214	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_215	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_216	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_217	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_218	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_219	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_220	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_221	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_222	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_223	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_224	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_225	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_226	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_227	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_228	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_229	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_230	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_231	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_232	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_233	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_234	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_235	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_236	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_237	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_238	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_239	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_240	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_241	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_242	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_243	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_244	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_245	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_246	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_247	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_248	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_249	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_250	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_251	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_252	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_253	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_254	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_255	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_256	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_257	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_258	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_259	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_260	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_261	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_262	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_263	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_264	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_265	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_266	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_267	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_268	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_269	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_270	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_271	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_272	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_273	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_274	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_275	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_276	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_277	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_278	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_279	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_280	Pass	Pass	Stable	Pass	Pass	Stable

FAULT ID	25SP			25WP		
	VOLT VIOLATION	VOLT RECOVERY	STABLE	VOLT VIOLATION	VOLT RECOVERY	STABLE
GROUP5_P4_LOCAL_FAULT_281	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_282	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_283	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_284	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_285	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_286	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_287	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_288	Pass	Pass	Stable	Pass	Pass	Stable
GROUP5_P4_LOCAL_FAULT_289	Pass	Pass	Stable	Pass	Pass	Stable
P4_GROUP4_P4_OKGE_FAULT_001	Pass	Pass	Stable	Pass	Pass	Stable
P4_GROUP4_P4_OKGE_FAULT_002	Pass	Pass	Stable	Pass	Pass	Stable
P4_GROUP4_P4_OKGE_FAULT_003	Pass	Pass	Stable	Pass	Pass	Stable
P4_GROUP4_P4_OKGE_FAULT_004	Pass	Pass	Stable	Pass	Pass	Stable

# APPENDIX F: SIMULATION PLOTS

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**\*Available Upon Request\***