

Report on

GEN-2018-106 Modification Request Impact Study

Revision R1 September 28, 2026

Submitted to
SPP



anedenconsulting.com

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Revision History

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION
9/28/2026	Aneden Consulting	Initial Report Issued

Executive Summary

Aneden Consulting (Aneden) was retained by SPP to perform a Modification Request Impact Study (Study) for GEN-2018-106, an active Generation Interconnection Request (GIR) with a Point of Interconnection (POI) at the Longwood 345kV Substation.

The GEN-2018-106 project interconnects in the American Electric Power West (AEP) transmission system with a capacity of 165 MW. This Study has been requested to evaluate the modification of GEN-2018-106 to change the configuration from a solar project to 186 x Tesla Megapack 2 XL Battery Energy Storage System (BESS) inverters operating at 0.898 MW for a total assumed dispatch of 167 MW. The inverters are rated at 1.075 MW, thus the generating capability exceeds its Generator Interconnection Agreement (GIA) Interconnection Service amount. The injection amount must be limited to 165 MW at the POI as listed in Appendix A of the GIA. As a result, the customer must ensure that the amount of power injected at the POI does not exceed the Interconnection Service amount listed in its GIA. The requested modification includes the use of a Power Plant Controller (PPC) to limit the total power injected into the POI.

In addition, the modification request included changes to the fuel type, generation interconnection line, collection system, generator step-up transformers, and main substation transformers. The existing and modified configurations for GEN-2018-106 are shown in Table ES-1 below.

Table ES-1: GEN-2018-106 Modification Request

Facility	Existing Configuration ¹	Modification Configuration
Point of Interconnection	Longwood 345kV (508809)	Longwood 345kV (508809)
Configuration/Capacity	44 x Power Electronics FS4200M 3.78 MW (solar) = 166.32 MW PPC in place to limit POI to 165 MW	186 x Tesla Megapack 2 XL 0.898 MW (Battery) = 167 MW [dispatch] Units are rated at 1.32 MVA/1.075 MW, PPC in place to limit POI to 165 MW
Generation Interconnection Line ³	Length = 1.08 miles R = 0.000030 pu X = 0.000240 pu B = 0.004570 pu Rating MVA = 220.0 MVA	Length = 1.4 miles R = 0.000050 pu X = 0.000672 pu B = 0.012404 pu Rating MVA = 1373 MVA (summer) / 1516 MVA (winter)
Main Substation Transformer ²	X = 8.9972%, R = 0.2249%, Winding MVA = 173.0 MVA, Rating MVA = 144.0 MVA	X = 8.9972%, R = 0.2249%, Winding MVA = 121 MVA, Rating MVA = 202 MVA
Equivalent GSU Transformer ²	Gen 1 Equivalent Qty: 44 X = 5.6996%, R = 0.7599%, Winding MVA = 369.6 MVA, Rating MVA = 369.6 MVA	Gen 1 Equivalent Qty: 47 X = 8.9516%, R = 0.9325%, Winding MVA = 248.16 MVA, Rating MVA = 248.2 MVA
Equivalent Collector Line ³	R = 0.001251 pu X = 0.001440 pu B = 0.014310 pu	R = 0.001772 pu X = 0.005188 pu B = 0.027844 pu
Generator Dynamic Model ⁴ & Power Factor	44 x Power Electronics FS4200M 3.78 MW (REGCA1) ⁴ Leading: 0.9 Lagging: 0.9	186 x Tesla Megapack 2 XL 0.898 MW (REGCA1) ⁴ Leading: 0.761 Lagging: 0.761

1) Configuration is from the DISIS-2022-001-1 stability model, 2) X and R based on Winding MVA, 3) All pu are on 100 MVA Base 4) DYN stability model name

SPP determined that steady-state analysis was not required because the modifications to the project were not significant enough to change the previously studied steady-state conclusions. However, SPP determined that the change in fuel type from solar to BESS required short circuit and dynamic stability analyses.

The scope of this study included reactive power analysis, short circuit analysis, and dynamic stability analysis.

Aneden performed the analyses using the modification request data and the DISIS-2022-001-1 stability study models:

- 2025 Summer Peak (25SP),
- 2025 Winter Peak (25WP)

All analyses were performed using the Siemens PTI PSS/E¹ version 34 software and the results are summarized below.

¹ Power System Simulator for Engineering

The results of the reactive power analysis using the 25SP model showed that the GEN-2018-106 project needed a 4 MVAR shunt reactor on the 34.5 kV bus of the project substation with the modifications in place, a decrease from the 5.03 MVAR found in the DISIS-2018-002/DISIS-2019-001-1 study². 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 reactive power analysis is provided as information to the Interconnection Customer and Transmission Owner (TO) and/or Transmission Operator (TOP). The applicable reactive power requirements will be further reviewed by the TO and/or TOP.

The short circuit analysis was performed using the 25SP stability model modified for short circuit analysis. The results from the short circuit analysis with the updated topology showed that the maximum GEN-2018-106 contribution to three-phase fault currents in the immediate transmission systems at or near the GEN-2018-106 POI was 0.37 kA. The maximum three-phase fault current level within 5 buses of the POI was 43.0 kA for the 25SP model. There was one bus with a maximum three-phase fault current over 40 kA. This bus is highlighted in Appendix B.

The dynamic stability analysis was performed using Siemens PTI PSS/E version 34.8.1 software for the two modified study models: 25SP and 25WP. 204 fault events were simulated, which included three-phase faults and single-line-to-ground stuck breaker faults.

The results of the dynamic stability analysis showed several existing base case issues that were found in both the original DISIS-2022-001-1 models and in the models with the GEN-2018-106 modification included. These issues were not attributed to the GEN-2018-106 modification request and are detailed in Appendix C.

There were no damping or voltage recovery violations attributed to the GEN-2018-106 modification request 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.

Based on the results of the study, SPP determined that the requested modification is **not a Material Modification**. The requested modification does not have a material adverse impact on the cost or timing of any other Interconnection Request with a later Queue priority date. As the requested modification places the generating capacity of the Interconnection Request at a higher amount than its Interconnection Service, the customer must install monitoring and control equipment as needed to ensure that the amount of power injected at the POI does not exceed the Interconnection Service amount listed in its GIA.

In accordance with FERC Order No. 827, the generating facility 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 generator substation.

It is likely that the customer may be required to reduce its generation output to 0 MW in real-time, also known as curtailment, under certain system conditions to allow system operators to maintain the reliability of the transmission network.

² DISIS-2018-002/DISIS-2019-001-1 Restudy of Power Flow, Stability, and Short Circuit – September 15, 2025

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 SPP's OASIS by the customer.

1.0 Scope of Study

Aneden Consulting (Aneden) was retained by SPP to perform a Modification Request Impact Study (Study) for GEN-2018-106. A Modification Request Impact Study is a generation interconnection study performed to evaluate the impacts of modifying the DISIS study assumptions. The determination of the required scope of the study is dependent upon the specific modification requested and how it may impact the results of the DISIS study. Impacting the DISIS results could potentially affect the cost or timing of any Interconnection Request with a later Queue priority date, deeming the requested modification a Material Modification. The criteria sections below include reasoning as to why an analysis was either included or excluded from the scope of study.

All analyses were performed using the Siemens PTI PSS/E version 34 software. The results of each analysis are presented in the following sections.

1.1 Reactive Power Analysis

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

1.2 Short Circuit Analysis & Stability Analysis

To determine whether stability and short circuit analyses are required, SPP evaluates the difference between the stability models, the stability model parameters and, if needed, the equivalent collector system impedance between the existing configuration and the requested modification. Dynamic stability analysis and short circuit analysis would be required if the differences listed above were determined to have a significant impact on the most recently performed DISIS stability analysis.

1.3 Steady-State Analysis

Steady-state analysis is performed if SPP deems it necessary based on the nature of the requested change. SPP determined that steady-state analysis was not required because the modifications to the project were not significant enough to change the previously studied steady-state conclusions.

1.4 Study Limitations

The assessments and conclusions provided in this report are based on assumptions and information provided to Aneden by others. While the assumptions and information provided may be appropriate for the purposes of this report, Aneden does not guarantee that those conditions assumed will occur. In addition, Aneden did not independently verify the accuracy or completeness of the information provided. 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.

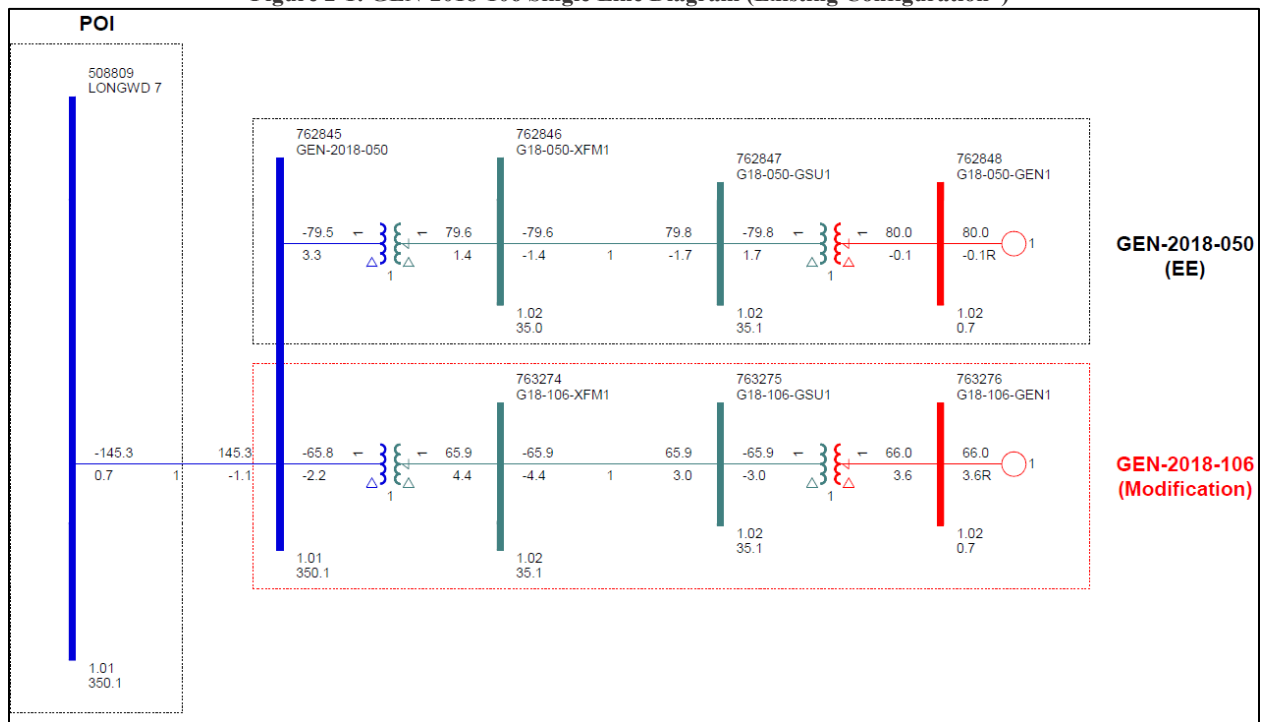
2.0 Project and Modification Request

The GEN-2018-106 Interconnection Customer requested a modification to its Generation Interconnection Request (GIR) with a Point of Interconnection (POI) at the Longwood 345kV Substation in the American Electric Power West (AEP) transmission system.

At the time of report posting, GEN-2018-106 is an active Interconnection Request with a queue status of “IA FULLY EXECUTED/ON SCHEDULE.” GEN-2018-106 is a solar facility with a maximum summer and winter queue capacity of 165 MW with Energy Resource Interconnection Service (ERIS).

The GEN-2018-106 project is currently in the DISIS-2018-002 cluster. Figure 2-1 shows the power flow model single line diagram for the existing GEN-2018-106 configuration using the DISIS-2022-001-1 25SP stability model.

Figure 2-1: GEN-2018-106 Single Line Diagram (Existing Configuration*)



*based on the DISIS-2022-001-1 25SP stability models

This Study has been requested to evaluate the modification of GEN-2018-106 to change the configuration from a solar project to 186 x Tesla Megapack 2 XL Battery Energy Storage System (BESS) inverters operating at 0.898 MW for a total assumed dispatch of 167 MW. The inverters are rated at 1.075 MW, thus the generating capability exceeds its Generator Interconnection Agreement (GIA) Interconnection Service amount. The injection amount must be limited to 165 MW at the POI as listed in Appendix A of the GIA. As a result, the customer must ensure that the amount of power injected at the POI does not exceed the Interconnection Service amount listed in its GIA. The requested modification includes the use of a Power Plant Controller (PPC) to limit the total power injected into the POI.

In addition, the modification request included changes to the fuel type, generation interconnection line, collection system, generator step-up transformers, and main substation transformers. Figure 2-2 shows the

power flow model single line diagram for the GEN-2018-106 modification. The existing and modified configurations for GEN-2018-106 are shown in Table 2-1 below.

Figure 2-2: GEN-2018-106 Single Line Diagram (Modification Configuration)

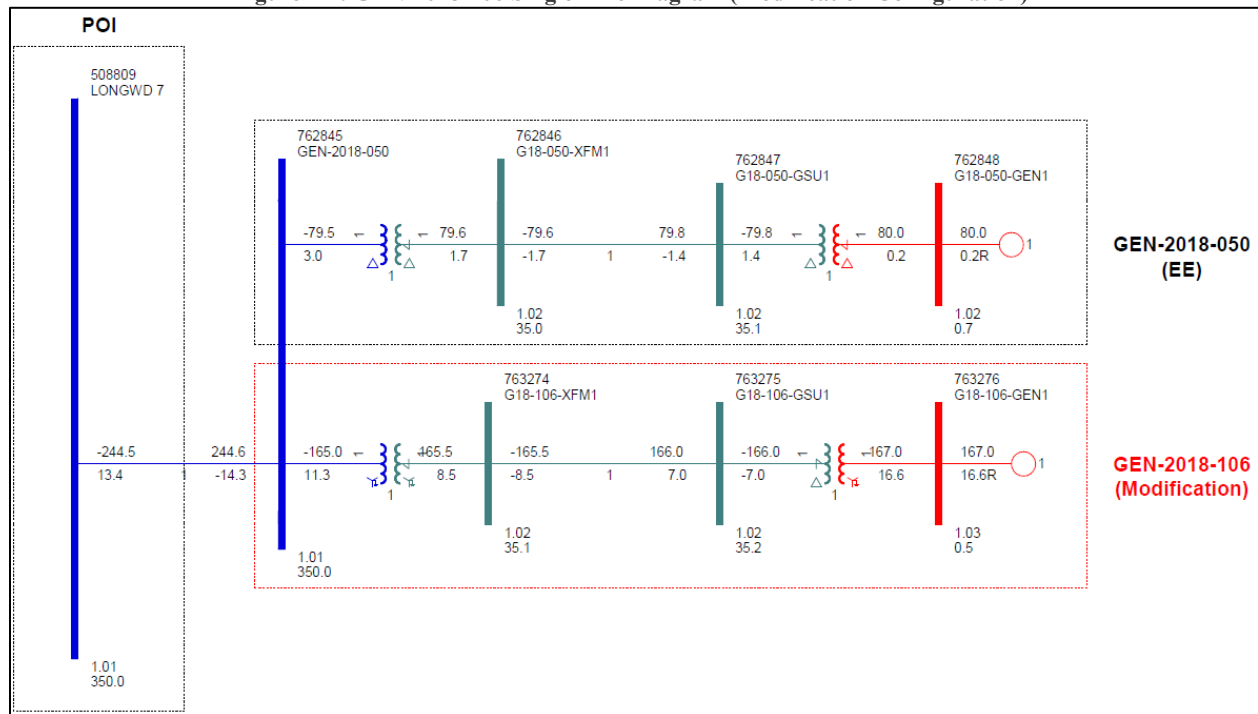


Table 2-1: GEN-2018-106 Modification Request

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Main Substation Transformer ²	X = 8.9972%, R = 0.2249%, Winding MVA = 173.0 MVA, Rating MVA = 144.0 MVA	X = 8.9972%, R = 0.2249%, Winding MVA = 121 MVA, Rating MVA = 202 MVA
Equivalent GSU Transformer ²	Gen 1 Equivalent Qty: 44 X = 5.6996%, R = 0.7599%, Winding MVA = 369.6 MVA, Rating MVA = 369.6 MVA	Gen 1 Equivalent Qty: 47 X = 8.9516%, R = 0.9325%, Winding MVA = 248.16 MVA, Rating MVA = 248.2 MVA
Equivalent Collector Line ³	R = 0.001251 pu X = 0.001440 pu B = 0.014310 pu	R = 0.001772 pu X = 0.005188 pu B = 0.027844 pu
Generator Dynamic Model ⁴ & Power Factor	44 x Power Electronics FS4200M 3.78 MW (REGCA1) ⁴ Leading: 0.9 Lagging: 0.9	186 x Tesla Megapack 2 XL 0.898 MW (REGCA1) ⁴ Leading: 0.761 Lagging: 0.761

1) Configuration is from the DISIS-2022-001-1 stability model, 2) X and R based on Winding MVA, 3) All pu are on 100 MVA Base 4) DYN stability model name

3.0 Existing vs Modification Comparison

To determine which analyses are required for the Study, the differences between the existing configuration and the requested modification were evaluated. Aneden performed this comparison and the resulting analyses using a set of modified study models developed based on the modification request data and the DISIS-2022-001-1 stability study models. The analysis was completed using PSS/E version 34 software.

The methodology and results of the comparisons are described below.

3.1 Stability Model Parameters Comparison

SPP determined that short circuit and dynamic stability analyses were required because of the fuel type change from solar to BESS. This is because the short circuit contribution and stability responses of the existing configuration and the requested modification's configuration may differ. The generator dynamic model for the modification can be found in Appendix A.

As short circuit and dynamic stability analyses were already deemed required, a stability model parameters comparison was not needed for the determination of the scope of the study.

3.2 Equivalent Impedance Comparison Calculation

As the fuel type change determined that short circuit and dynamic stability analyses were required, an equivalent impedance comparison was not needed for the determination of the scope of the study.

4.0 Reactive Power Analysis

The reactive power analysis was performed for GEN-2018-106 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.

4.1 Methodology and Criteria

For this analysis the GEN-2018-050 project that shares the gen-tie line was disconnected. The GEN-2018-106 generators were switched out of service while other system elements remained in-service. A shunt reactor was tested at the project's collection substation 34.5 kV bus to reduce the MVar injection at the POI to zero. The size of the shunt reactor is equivalent to the charging current value at unity voltage and the compensation provided is proportional to the voltage effects on the charging current (i.e., for voltages above unity, reactive compensation is greater than the size of the reactor).

Aneden performed the reactive power analysis using the modification request data based on the 25SP DISIS-2022-001-1 stability study model.

4.2 Results

The results from the analysis showed that the GEN-2018-106 project needed approximately 4 MVar of compensation at its collector substation to reduce the MVar injection at the POI to zero. This is a decrease from the 5.03 MVar found in the DISIS-2018-002/DISIS-2019-001-1 study³. The final shunt reactor requirements are shown in Table 4-1. Figure 4-1 illustrates the shunt reactor size needed to reduce the POI MVar to approximately zero with the updated topology.

The information gathered from the reactive power analysis is provided as information to the Interconnection Customer and Transmission Owner (TO) and/or Transmission Operator (TOP). The applicable reactive power requirements will be further reviewed by the TO and/or TOP.

Table 4-1: Shunt Reactor Size for Reactive Power Analysis

Machine	POI Bus Number	POI Bus Name	Reactor Size (MVar)
			25SP
763276	508809	LONGWD 7 345 kV	4.0

³ DISIS-2018-002/DISIS-2019-001-1 Restudy of Power Flow, Stability, and Short Circuit – September 15, 2025

Figure 4-1: GEN-2018-106 Single Line Diagram (Shunt Sizes)



5.0 Short Circuit Analysis

Aneden performed a short circuit study using the 25SP model for GEN-2018-106 to determine the maximum fault current requiring interruption by protective equipment for each bus in the relevant subsystem. The detailed results of the short circuit analysis are provided in Appendix B.

5.1 Methodology

The short circuit analysis included applying a 3-phase fault on buses up to 5 levels away from the 345 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-2018-106 online.

Aneden created a short circuit model using the 25SP DISIS-2022-001-1 stability study model by adjusting the GEN-2018-106 short circuit parameters consistent with the submitted data. The adjusted parameters used in the short circuit analysis are shown in Table 5-1 below. No other changes were made to the model.

Table 5-1: Short Circuit Model Parameters*

Parameter	Value by Generator Bus#
	763276
Machine MVA Base	245.52
R (pu)	0.0
X" (pu)	0.8333

*pu values based on Machine MVA Base

5.2 Results

The results of the short circuit analysis for the 25SP model are summarized in Table 5-2 and Table 5-3. The GEN-2018-106 POI bus (Longwood 345kV) fault current magnitudes for the comparison cases are provided in Table 5-2 showing a fault current of 15.86 kA with the GEN-2018-106 project online. Table 5-3 shows the maximum fault current magnitudes and fault current increases with the GEN-2018-106 project online.

The maximum fault current calculated within 5 buses of the POI was 43.0 kA for the 25SP model. There was one bus with a maximum three-phase fault current over 40 kA. This bus is highlighted in Appendix B. The maximum GEN-2018-106 contribution to three-phase fault currents was about 2.4% and 0.37 kA.

Table 5-2: POI Short Circuit Comparison Results

Case	GEN-OFF Current (kA)	GEN-ON Current (kA)	kA Change	%Change
25SP	15.49	15.86	0.37	2.4%

Table 5-3: 25SP Short Circuit Comparison Results

Voltage (kV)	Max. Current (kA)	Max kA Change	Max %Change
69	28.2	0.06	0.2%
115	35.2	0.06	0.3%
138	43.0	0.21	0.7%
230	15.5	0.02	0.1%
345	21.6	0.37	2.4%
500	27.5	0.01	0.0%
Max	43.0	0.37	2.4%

6.0 Dynamic Stability Analysis

Aneden performed a dynamic stability analysis to identify the impact of the modifications to GEN-2018-106. The analysis was performed according to SPP's Disturbance Performance Requirements⁴. The modification details are described in Section 2.0 above and the dynamic modeling data is provided in Appendix A. The existing base case issues and simulation plots can be found in Appendix C.

6.1 Methodology and Criteria

The dynamic stability analysis was performed using models developed with the requested GEN-2018-106 configuration of 186 x Tesla Megapack 2 XL inverters operating at 0.898 MW (REGCA1). This stability analysis was performed using Siemens PTI's PSS/E version 34.8.1 software.

The modifications requested for the GEN-2018-106 project were used to create modified stability models for this impact study based on the DISIS-2022-001-1 stability study models:

- 2025 Summer Peak (25SP),
- 2025 Winter Peak (25WP)

The dynamic model data for the GEN-2018-106 project is provided in Appendix A. 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.

The following system adjustments were made to address existing base case issues that are not attributed to the modification request:

- Frequency protective relays were disabled to avoid generator trips due to PSSE bus frequency calculation deficiencies for the generators on bus 763276.
- Voltage protective relays were disabled to avoid generator trips due to temporary over voltage after fault cleared for generators on bus 52080 and 763276.
- The simulation acceleration factor was reduced, and the iteration limit was increased as needed to resolve stability simulation crashes.

During the fault simulations, the active power (PELEC), reactive power (QELEC), and terminal voltage (ETERM) were monitored for GEN-2018-106 and other current and prior queued projects in Group 4. In addition, voltages of five (5) buses away from the POI of the GEN-2018-106 were monitored and plotted. The machine rotor angle for synchronous machines and speed for asynchronous machines within the study areas including 327 (EES-EAI), 330 (AECI), 351 (EES), 356 (AMMO), 502 (CLEC), 515 (SWPA), 520 (AEPW), 523 (GRDA), 524 (OKGE), 525 (WFEC), 526 (SPS), 527 (OMPA), 534 (SUNC), 536 (WERE), 544 (EMDE), and 546 (SPRM) were monitored. The voltages of all 100 kV and above buses within the study area were monitored as well.

⁴ SPP Disturbance Performance Requirements:

[https://www.spp.org/documents/28859/spp%20disturbance%20performance%20requirements%20\(twg%20approved\).pdf](https://www.spp.org/documents/28859/spp%20disturbance%20performance%20requirements%20(twg%20approved).pdf)

6.2 Fault Definitions

Aneden developed fault events as required to study the modification. The new set of faults was simulated using the modified 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 Table 6-1 below. These contingencies were applied to the modified 25SP and 25WP models.

Table 6-1: Fault Definitions

Fault ID	Planning Event	Fault Descriptions
FLT1000-SB	P4	Stuck Breaker on LONGWD 7 (508809) 345 kV Bus a. Apply single phase fault at the LONGWD 7 (508809) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1.Trip the LONGWD 7 (508809) 345 kV to SW SHV 7 (507760) 345 kV line CKT 1. b.2.Trip the LONGWD 7 (508809) 345 kV to 7SAREPTA% (337376) 345 kV line CKT 1.
FLT1001-SB	P4	Stuck Breaker on LONGWD 7 (508809) 345 kV Bus a. Apply single phase fault at the LONGWD 7 (508809) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1.Trip the LONGWD 7 (508809) 345 kV to SW SHV 7 (507760) 345 kV line CKT 1. b.2.Trip the LONGWD 7 (508809) 345 kV to WILKES 7 (508841) 345 kV line CKT 1.
FLT1002-SB	P4	Stuck Breaker on LONGWD 7 (508809) 345 kV Bus a. Apply single phase fault at the LONGWD 7 (508809) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1.Trip the LONGWD 7 (508809) 345 kV to WILKES 7 (508841) 345 kV line CKT 1. b.2.Trip the LONGWD 7 (508809) 345 kV to GEN-2018-050 (762845) 345 kV line CKT 1. Trip generator(s) on the Bus G18-106-GEN1 (763276) 0.7 kV Trip generator(s) on the Bus G18-050-GEN1 (762848) 0.7 kV
FLT1003-SB	P4	Stuck Breaker on LONGWD 7 (508809) 345 kV Bus a. Apply single phase fault at the LONGWD 7 (508809) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1.Trip the LONGWD 7 (508809) 345 kV / LONGWD 4 (508808) 138 kV / LONGW1-1 (508819) 13.2 kV XFMR CKT 1. b.2.Trip the LONGWD 7 (508809) 345 kV to GEN-2018-050 (762845) 345 kV line CKT 1. Trip generator(s) on the Bus G18-106-GEN1 (763276) 0.7 kV Trip generator(s) on the Bus G18-050-GEN1 (762848) 0.7 kV
FLT1004-SB	P4	Stuck Breaker on LONGWD 7 (508809) 345 kV Bus a. Apply single phase fault at the LONGWD 7 (508809) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1.Trip the LONGWD 7 (508809) 345 kV / LONGWD 4 (508808) 138 kV / LONGW1-1 (508819) 13.2 kV XFMR CKT 1. b.2.Trip the LONGWD 7 (508809) 345 kV to 7SAREPTA% (337376) 345 kV line CKT 1.
FLT1005-SB	P4	Stuck Breaker on 7SAREPTA% (337376) 345 kV Bus a. Apply single phase fault at the 7SAREPTA% (337376) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1.Trip bus 7SAREPTA% (337376) 345 kV.
FLT1006-SB	P4	Stuck Breaker on LONGWD 4 (508808) 138 kV Bus a. Apply single phase fault at the LONGWD 4 (508808) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1.Trip the LONGWD 4 (508808) 138 kV / LONGWD 7 (508809) 345 kV / LONGW1-1 (508819) 13.2 kV XFMR CKT 1. b.2.Trip the LONGWD 4 (508808) 138 kV to OAKPH 4 (508816) 138 kV line CKT 1. b.3.Trip bus OAKPH 4 (508816) 138 kV.
FLT1007-SB	P4	Stuck Breaker on LONGWD 4 (508808) 138 kV Bus a. Apply single phase fault at the LONGWD 4 (508808) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1.Trip the LONGWD 4 (508808) 138 kV to OAKPH 4 (508816) 138 kV line CKT 1. b.2.Trip the LONGWD 4 (508808) 138 kV to G22-038-TAP (767740) 138 kV line CKT 1. b.3.Trip bus OAKPH 4 (508816) 138 kV.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT1008-SB	P4	Stuck Breaker on LONGWD 4 (508808) 138 kV Bus a. Apply single phase fault at the LONGWD 4 (508808) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the LONGWD 4 (508808) 138 kV to G22-038-TAP (767740) 138 kV line CKT 1. b.2. Trip the LONGWD 4 (508808) 138 kV to LIEBERM4 (508806) 138 kV line CKT 1.
FLT1009-SB	P4	Stuck Breaker on LONGWD 4 (508808) 138 kV Bus a. Apply single phase fault at the LONGWD 4 (508808) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the LONGWD 4 (508808) 138 kV to LIEBERM4 (508806) 138 kV line CKT 1. b.2. Trip the LONGWD 4 (508808) 138 kV to NORAM 4 (507774) 138 kV line CKT 1. b.3. Trip bus NORAM 4 (507774) 138 kV.
FLT1010-SB	P4	Stuck Breaker on LONGWD 4 (508808) 138 kV Bus a. Apply single phase fault at the LONGWD 4 (508808) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the LONGWD 4 (508808) 138 kV / LONGWD 7 (508809) 345 kV / LONGW1-1 (508819) 13.2 kV XFMR CKT 1. b.2. Trip the LONGWD 4 (508808) 138 kV to NORAM 4 (507774) 138 kV line CKT 1. b.3. Trip bus NORAM 4 (507774) 138 kV.
FLT1011-SB	P4	Stuck Breaker on 3SAREPTA! (337363) 115 kV Bus a. Apply single phase fault at the 3SAREPTA! (337363) 115 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip bus 3SAREPTA! (337363) 115 kV.
FLT1012-SB	P4	Stuck Breaker on SW SHV 7 (507760) 345 kV Bus a. Apply single phase fault at the SW SHV 7 (507760) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 7 (507760) 345 kV to LONGWD 7 (508809) 345 kV line CKT 1. b.2. Trip the SW SHV 7 (507760) 345 kV to DIANA 7 (508832) 345 kV line CKT 1.
FLT1013-SB	P4	Stuck Breaker on SW SHV 7 (507760) 345 kV Bus a. Apply single phase fault at the SW SHV 7 (507760) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 7 (507760) 345 kV to LONGWD 7 (508809) 345 kV line CKT 1. b.2. Trip the SW SHV 7 (507760) 345 kV / SW SHV 4 (507759) 138 kV / SWSHV1-1 (507778) 13.8 kV XFMR CKT 1.
FLT1014-SB	P4	Stuck Breaker on SW SHV 7 (507760) 345 kV Bus a. Apply single phase fault at the SW SHV 7 (507760) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.2. Trip the SW SHV 7 (507760) 345 kV / SW SHV 4 (507759) 138 kV / SWSHV1-1 (507778) 13.8 kV XFMR CKT 1. b.2. Trip the SW SHV 7 (507760) 345 kV to DOLHILL7 (500250) 345 kV line CKT 1.
FLT1015-SB	P4	Stuck Breaker on SW SHV 7 (507760) 345 kV Bus a. Apply single phase fault at the SW SHV 7 (507760) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 7 (507760) 345 kV to DOLHILL7 (500250) 345 kV line CKT 1. b.2. Trip the SW SHV 7 (507760) 345 kV / SW SHV 4 (507759) 138 kV / SWSHV2-1 (507777) 13.8 kV XFMR CKT 2.
FLT1016-SB	P4	Stuck Breaker on SW SHV 7 (507760) 345 kV Bus a. Apply single phase fault at the SW SHV 7 (507760) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.2. Trip the SW SHV 7 (507760) 345 kV / SW SHV 4 (507759) 138 kV / SWSHV2-1 (507777) 13.8 kV XFMR CKT 2. b.2. Trip the SW SHV 7 (507760) 345 kV to DIANA 7 (508832) 345 kV line CKT 1.
FLT1017-SB	P4	Stuck Breaker on SW SHV 4 (507759) 138 kV Bus a. Apply single phase fault at the SW SHV 4 (507759) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 4 (507759) 138 kV / SW SHV 7 (507760) 345 kV / SWSHV2-1 (507777) 13.8 kV XFMR CKT 2. b.2. Trip the SW SHV 4 (507759) 138 kV to LEASIDE 4 (507793) 138 kV line CKT 1.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT1018-SB	P4	Stuck Breaker on SW SHV 4 (507759) 138 kV Bus a. Apply single phase fault at the SW SHV 4 (507759) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 4 (507759) 138 kV / SW SHV 7 (507760) 345 kV / SWSHV2-1 (507777) 13.8 kV XFMR CKT 2. b.2. Trip the SW SHV 4 (507759) 138 kV to S SHV 4 (507755) 138 kV line CKT 1.
FLT1019-SB	P4	Stuck Breaker on SW SHV 4 (507759) 138 kV Bus a. Apply single phase fault at the SW SHV 4 (507759) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 4 (507759) 138 kV / SW SHV 7 (507760) 345 kV / SWSHV1-1 (507778) 13.8 kV XFMR CKT 1. b.2. Trip the SW SHV 4 (507759) 138 kV to LEASIDE 4 (507793) 138 kV line CKT 1.
FLT1020-SB	P4	Stuck Breaker on SW SHV 4 (507759) 138 kV Bus a. Apply single phase fault at the SW SHV 4 (507759) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 4 (507759) 138 kV / SW SHV 7 (507760) 345 kV / SWSHV1-1 (507778) 13.8 kV XFMR CKT 1. b.2. Trip the SW SHV 4 (507759) 138 kV to GENMOTR4 (507732) 138 kV line CKT 1.
FLT1021-SB	P4	Stuck Breaker on SW SHV 4 (507759) 138 kV Bus a. Apply single phase fault at the SW SHV 4 (507759) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 4 (507759) 138 kV to GENMOTR4 (507732) 138 kV line CKT 1. b.2. Trip the SW SHV 4 (507759) 138 kV to POWELL 4 (507748) 138 kV line CKT 1.
FLT1022-SB	P4	Stuck Breaker on SW SHV 4 (507759) 138 kV Bus a. Apply single phase fault at the SW SHV 4 (507759) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 4 (507759) 138 kV to POWELL 4 (507748) 138 kV line CKT 1. b.2. Trip the SW SHV 4 (507759) 138 kV to SPRIDGE4 (507757) 138 kV line CKT 1.
FLT1023-SB	P4	Stuck Breaker on SW SHV 4 (507759) 138 kV Bus a. Apply single phase fault at the SW SHV 4 (507759) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the SW SHV 4 (507759) 138 kV to SPRIDGE4 (507757) 138 kV line CKT 1. b.2. Trip the SW SHV 4 (507759) 138 kV to S SHV 4 (507755) 138 kV line CKT 1.
FLT1024-SB	P4	Stuck Breaker on WILKES 7 (508841) 345 kV Bus a. Apply single phase fault at the WILKES 7 (508841) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the WILKES 7 (508841) 345 kV to WELSH 7 (508359) 345 kV line CKT 1. b.2. Trip bus WILKE3-1 (509409) 22 kV. Trip generator(s) on the Bus WILKE3-1 (509409) 22 kV
FLT1025-SB	P4	Stuck Breaker on WILKES 7 (508841) 345 kV Bus a. Apply single phase fault at the WILKES 7 (508841) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the WILKES 7 (508841) 345 kV to WELSH 7 (508359) 345 kV line CKT 1. b.2. Trip the WILKES 7 (508841) 345 kV to LONGWD 7 (508809) 345 kV line CKT 1.
FLT1026-SB	P4	Stuck Breaker on WILKES 7 (508841) 345 kV Bus a. Apply single phase fault at the WILKES 7 (508841) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the WILKES 7 (508841) 345 kV to LONGWD 7 (508809) 345 kV line CKT 1. b.2. Trip the WILKES 7 (508841) 345 kV / WILKES 4 (508840) 138 kV / WILKES-1 (508826) 13.2 kV XFMR CKT 1.
FLT1027-SB	P4	Stuck Breaker on WILKES 7 (508841) 345 kV Bus a. Apply single phase fault at the WILKES 7 (508841) 345 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.2. Trip the WILKES 7 (508841) 345 kV / WILKES 4 (508840) 138 kV / WILKES-1 (508826) 13.2 kV XFMR CKT 1. b.2. Trip bus WILKE3-1 (509409) 22 kV. Trip generator(s) on the Bus WILKE3-1 (509409) 22 kV

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT1028-SB	P4	Stuck Breaker on WILKES 4 (508840) 138 kV Bus a. Apply single phase fault at the WILKES 4 (508840) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the WILKES 4 (508840) 138 kV to JEFFRSN4 (508835) 138 kV line CKT 1. b.2. Trip the WILKES 4 (508840) 138 kV to WELSHRE4 (508355) 138 kV line CKT 1.
FLT1029-SB	P4	Stuck Breaker on WILKES 4 (508840) 138 kV Bus a. Apply single phase fault at the WILKES 4 (508840) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the WILKES 4 (508840) 138 kV / WILKES 7 (508841) 345 kV / WILKES-1 (508826) 13.2 kV XFMR CKT 1. b.2. Trip bus WILKE2-1 (509408) 22 kV. Trip generator(s) on the Bus WILKE2-1 (509408) 22 kV
FLT1030-SB	P4	Stuck Breaker on WILKES 4 (508840) 138 kV Bus a. Apply single phase fault at the WILKES 4 (508840) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the WILKES 4 (508840) 138 kV to LSSOUTH4 (508297) 138 kV line CKT 1. b.2. Trip bus WILKE1-1 (509407) 20 kV. Trip generator(s) on the Bus WILKE1-1 (509407) 20 kV
FLT1031-SB	P4	Stuck Breaker on WILKES 4 (508840) 138 kV Bus a. Apply single phase fault at the WILKES 4 (508840) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the WILKES 4 (508840) 138 kV to MUNZCTY4 (508064) 138 kV line CKT 1. b.2. Trip the WILKES 4 (508840) 138 kV to WATLANT4 (508090) 138 kV line CKT 1.
FLT1032-SB	P4	Stuck Breaker on LIEBERM4 (508806) 138 kV Bus a. Apply single phase fault at the LIEBERM4 (508806) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the LIEBERM4 (508806) 138 kV to IPCJEFF4 (508833) 138 kV line CKT 1. b.2. Trip the LIEBERM4 (508806) 138 kV to ARSHILL4 (507711) 138 kV line CKT 1. b.3. Trip bus LIEBERM2 (508805) 69 kV. b.4. Trip bus LIEBR2-1 (509400) 13.8 kV. Trip generator(s) on the Bus LIEBR2-1 (509400) 13.8 kV
FLT1033-SB	P4	Stuck Breaker on LIEBERM4 (508806) 138 kV Bus a. Apply single phase fault at the LIEBERM4 (508806) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the LIEBERM4 (508806) 138 kV to IPCJEFF4 (508833) 138 kV line CKT 1. b.2. Trip the LIEBERM4 (508806) 138 kV to ARSHILL4 (507711) 138 kV line CKT 1. b.3. Trip bus LIEBERM2 (508805) 69 kV. b.4. Trip bus LIEBR3-1 (509401) 13.8 kV. Trip generator(s) on the Bus LIEBR3-1 (509401) 13.8 kV b.6. Trip bus LIEBR2-1 (509400) 13.8 kV. Trip generator(s) on the Bus LIEBR2-1 (509400) 13.8 kV
FLT1034-SB	P4	Stuck Breaker on LIEBERM4 (508806) 138 kV Bus a. Apply single phase fault at the LIEBERM4 (508806) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the LIEBERM4 (508806) 138 kV to IPCJEFF4 (508833) 138 kV line CKT 1. b.2. Trip the LIEBERM4 (508806) 138 kV to ARSHILL4 (507711) 138 kV line CKT 1. b.3. Trip bus LIEBERM2 (508805) 69 kV. b.4. Trip bus LIEBR4-1 (509402) 13.8 kV. Trip generator(s) on the Bus LIEBR4-1 (509402) 13.8 kV b.6. Trip bus LIEBR2-1 (509400) 13.8 kV. Trip generator(s) on the Bus LIEBR2-1 (509400) 13.8 kV
FLT1035-SB	P4	Stuck Breaker on LIEBERM4 (508806) 138 kV Bus a. Apply single phase fault at the LIEBERM4 (508806) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the LIEBERM4 (508806) 138 kV to LONGWD 4 (508808) 138 kV line CKT 1. b.4. Trip bus LIEBR3-1 (509401) 13.8 kV. Trip generator(s) on the Bus LIEBR3-1 (509401) 13.8 kV

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT1036-SB	P4	Stuck Breaker on LIEBERM4 (508806) 138 kV Bus a. Apply single phase fault at the LIEBERM4 (508806) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the LIEBERM4 (508806) 138 kV to G16-167-TAP (588404) 138 kV line CKT 1. b.4. Trip bus LIEBR4-1 (509402) 13.8 kV. Trip generator(s) on the Bus LIEBR4-1 (509402) 13.8 kV
FLT1037-SB	P4	Stuck Breaker on LIEBERM4 (508806) 138 kV Bus a. Apply single phase fault at the LIEBERM4 (508806) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip the LIEBERM4 (508806) 138 kV to G16-167-TAP (588404) 138 kV line CKT 1. b.2. Trip the LIEBERM4 (508806) 138 kV to LONGWD 4 (508808) 138 kV line CKT 1.
FLT1038-SB	P4	Stuck Breaker on LIEBERM2 (508805) 69 kV Bus a. Apply single phase fault at the LIEBERM2 (508805) 69 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip bus LIEBERM2 (508805) 69 kV.
FLT1039-SB	P4	Stuck Breaker on G22-038-TAP (767740) 138 kV Bus a. Apply single phase fault at the G22-038-TAP (767740) 138 kV Bus b. Clear fault after 16 cycles and trip the following elements: b.1. Trip bus G22-038-TAP (767740) 138 kV. Trip generator(s) on the Bus G22-038GEN1 (767744) 0.6 kV
FLT9000-3PH	P1	3 Phase fault on LONGWD 7 (508809) 345 kV to GEN-2018-050 (762845) 345 kV line CKT 1, near LONGWD 7 (508809) 345 kV. a. Apply fault at the LONGWD 7 (508809) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus G18-050-GEN1 (762848) 0.7 kV Trip generator(s) on the Bus G18-106-GEN1 (763276) 0.7 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9001-3PH	P1	3 Phase fault on GEN-2018-050 (762845) 345 kV to LONGWD 7 (508809) 345 kV line CKT 1, near GEN-2018-050 (762845) 345 kV. a. Apply fault at the GEN-2018-050 (762845) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus G18-050-GEN1 (762848) 0.7 kV Trip generator(s) on the Bus G18-106-GEN1 (763276) 0.7 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9002-3PH	P1	3 Phase fault on LONGWD 7 (508809) 345 kV to WILKES 7 (508841) 345 kV line CKT 1, near LONGWD 7 (508809) 345 kV. a. Apply fault at the LONGWD 7 (508809) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9003-3PH	P1	3 Phase fault on WILKES 7 (508841) 345 kV to LONGWD 7 (508809) 345 kV line CKT 1, near WILKES 7 (508841) 345 kV. a. Apply fault at the WILKES 7 (508841) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9004-3PH	P1	3 Phase fault on WILKES 7 (508841) 345 kV to WELSH 7 (508359) 345 kV line CKT 1, near WILKES 7 (508841) 345 kV. a. Apply fault at the WILKES 7 (508841) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9005-3PH	P1	3 Phase fault on WELSH 7 (508359) 345 kV to WILKES 7 (508841) 345 kV line CKT 1, near WELSH 7 (508359) 345 kV. a. Apply fault at the WELSH 7 (508359) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9006-3PH	P1	3 Phase fault on WILKES 7 (508841) 345 kV to WILKE3-1 (509409) 22 kV XFMR CKT 1, near WILKES 7 (508841) 345 kV. a. Apply fault at the WILKES 7 (508841) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus WILKE3-1 (509409) 22 kV
FLT9007-3PH	P1	3 Phase fault on WILKE3-1 (509409) 22 kV to WILKES 7 (508841) 345 kV XFMR CKT 1, near WILKE3-1 (509409) 22 kV. a. Apply fault at the WILKE3-1 (509409) 22 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. Trip generator(s) on the Bus WILKE3-1 (509409) 22 kV
FLT9008-3PH	P1	3 Phase fault on WILKES 7 (508841) 345 kV to GEN-2022-111 (769201) 345 kV line CKT 1, near WILKES 7 (508841) 345 kV. a. Apply fault at the WILKES 7 (508841) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus G22-111GEN1 (769204) 0.6 kV Trip generator(s) on the Bus G22-111GEN2 (769206) 0.9 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9009-3PH	P1	3 Phase fault on GEN-2022-111 (769201) 345 kV to WILKES 7 (508841) 345 kV line CKT 1, near GEN-2022-111 (769201) 345 kV. a. Apply fault at the GEN-2022-111 (769201) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus G22-111GEN1 (769204) 0.6 kV Trip generator(s) on the Bus G22-111GEN2 (769206) 0.9 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9010-3PH	P1	3 Phase fault on WILKES 7 (508841) 345 kV / WILKES 4 (508840) 138 kV / WILKES-1 (508826) 13.2 kV XFMR CKT 1, near WILKES 7 (508841) 345 kV. a. Apply fault at the WILKES 7 (508841) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line.
FLT9011-3PH	P1	3 Phase fault on WILKES 4 (508840) 138 kV / WILKES 7 (508841) 345 kV / WILKES-1 (508826) 13.2 kV XFMR CKT 1, near WILKES 4 (508840) 138 kV. a. Apply fault at the WILKES 4 (508840) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9012-3PH	P1	3 Phase fault on WILKES 4 (508840) 138 kV to JEFFRSN4 (508835) 138 kV line CKT 1, near WILKES 4 (508840) 138 kV. a. Apply fault at the WILKES 4 (508840) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9013-3PH	P1	3 Phase fault on WILKES 4 (508840) 138 kV to WILKE1-1 (509407) 20 kV XFMR CKT 2, near WILKES 4 (508840) 138 kV. a. Apply fault at the WILKES 4 (508840) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9014-3PH	P1	3 Phase fault on WILKE1-1 (509407) 20 kV to WILKES 4 (508840) 138 kV XFMR CKT 2, near WILKE1-1 (509407) 20 kV. a. Apply fault at the WILKE1-1 (509407) 20 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9015-3PH	P1	3 Phase fault on WILKES 4 (508840) 138 kV to WILKE2-1 (509408) 22 kV XFMR CKT 2, near WILKES 4 (508840) 138 kV. a. Apply fault at the WILKES 4 (508840) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9016-3PH	P1	3 Phase fault on WILKE2-1 (509408) 22 kV to WILKES 4 (508840) 138 kV XFMR CKT 2, near WILKE2-1 (509408) 22 kV. a. Apply fault at the WILKE2-1 (509408) 22 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9017-3PH	P1	3 Phase fault on WILKES 4 (508840) 138 kV to MUNZCTY4 (508064) 138 kV line CKT 1, near WILKES 4 (508840) 138 kV. a. Apply fault at the WILKES 4 (508840) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9018-3PH	P1	3 Phase fault on MUNZCTY4 (508064) 138 kV to WILKES 4 (508840) 138 kV line CKT 1, near MUNZCTY4 (508064) 138 kV. a. Apply fault at the MUNZCTY4 (508064) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9019-3PH	P1	3 Phase fault on WILKES 4 (508840) 138 kV to LSSOUTH4 (508297) 138 kV line CKT 1, near WILKES 4 (508840) 138 kV. a. Apply fault at the WILKES 4 (508840) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9020-3PH	P1	3 Phase fault on LSSOUTH4 (508297) 138 kV to WILKES 4 (508840) 138 kV line CKT 1, near LSSOUTH4 (508297) 138 kV. a. Apply fault at the LSSOUTH4 (508297) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9021-3PH	P1	3 Phase fault on WILKES 4 (508840) 138 kV to WATLANT4 (508090) 138 kV line CKT 1, near WILKES 4 (508840) 138 kV. a. Apply fault at the WILKES 4 (508840) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9022-3PH	P1	3 Phase fault on WATLANT4 (508090) 138 kV to WILKES 4 (508840) 138 kV line CKT 1, near WATLANT4 (508090) 138 kV. a. Apply fault at the WATLANT4 (508090) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9023-3PH	P1	3 Phase fault on WATLANT4 (508090) 138 kV / WATLANT2 (508089) 69 kV / WATL2-1 (508046) 13.2 kV XFMR CKT 2, near WATLANT4 (508090) 138 kV. a. Apply fault at the WATLANT4 (508090) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9024-3PH	P1	3 Phase fault on WATLANT2 (508089) 69 kV / WATLANT4 (508090) 138 kV / WATL2-1 (508046) 13.2 kV XFMR CKT 2, near WATLANT2 (508089) 69 kV. a. Apply fault at the WATLANT2 (508089) 69 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9025-3PH	P1	3 Phase fault on WATLANT4 (508090) 138 kV to CASSTP4 (508106) 138 kV line CKT 1, near WATLANT4 (508090) 138 kV. a. Apply fault at the WATLANT4 (508090) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9026-3PH	P1	3 Phase fault on LSSOUTH4 (508297) 138 kV / LSSOUTH2 (508296) 69 kV / LSS-1 (508325) 12.5 kV XFMR CKT 1, near LSSOUTH4 (508297) 138 kV. a. Apply fault at the LSSOUTH4 (508297) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9027-3PH	P1	3 Phase fault on LSSOUTH2 (508296) 69 kV / LSSOUTH4 (508297) 138 kV / LSS-1 (508325) 12.5 kV XFMR CKT 1, near LSSOUTH2 (508296) 69 kV. a. Apply fault at the LSSOUTH2 (508296) 69 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9028-3PH	P1	3 Phase fault on LSSOUTH4 (508297) 138 kV to PITTSB_4 (508313) 138 kV line CKT 1, near LSSOUTH4 (508297) 138 kV. a. Apply fault at the LSSOUTH4 (508297) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9029-3PH	P1	3 Phase fault on LSSOUTH4 (508297) 138 kV to DIANA 4 (508831) 138 kV line CKT 1, near LSSOUTH4 (508297) 138 kV. a. Apply fault at the LSSOUTH4 (508297) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9030-3PH	P1	3 Phase fault on WILKES 4 (508840) 138 kV to WELSHRE4 (508355) 138 kV line CKT 1, near WILKES 4 (508840) 138 kV. a. Apply fault at the WILKES 4 (508840) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9031-3PH	P1	3 Phase fault on WELSHRE4 (508355) 138 kV to WILKES 4 (508840) 138 kV line CKT 1, near WELSHRE4 (508355) 138 kV. a. Apply fault at the WELSHRE4 (508355) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9032-3PH	P1	3 Phase fault on WELSHRE4 (508355) 138 kV to CHAPELH4 (508337) 138 kV line CKT 1, near WELSHRE4 (508355) 138 kV. a. Apply fault at the WELSHRE4 (508355) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9033-3PH	P1	3 Phase fault on MUNZCTY4 (508064) 138 kV to DUGLASV4 (509666) 138 kV line CKT 1, near MUNZCTY4 (508064) 138 kV. a. Apply fault at the MUNZCTY4 (508064) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9034-3PH	P1	3 Phase fault on MUNZCTY4 (508064) 138 kV to BRYANML4 (508056) 138 kV line CKT 1, near MUNZCTY4 (508064) 138 kV. a. Apply fault at the MUNZCTY4 (508064) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9035-3PH	P1	3 Phase fault on WELSH 7 (508359) 345 kV to WELSH3-1 (509406) 18 kV XFMR CKT 1, near WELSH 7 (508359) 345 kV. a. Apply fault at the WELSH 7 (508359) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus WELSH3-1 (509406) 18 kV
FLT9036-3PH	P1	3 Phase fault on WELSH 7 (508359) 345 kV to WELSH1-1 (509404) 18 kV XFMR CKT 1, near WELSH 7 (508359) 345 kV. a. Apply fault at the WELSH 7 (508359) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus WELSH1-1 (509404) 18 kV
FLT9037-3PH	P1	3 Phase fault on WELSH 7 (508359) 345 kV to DIANA 7 (508832) 345 kV line CKT 1, near WELSH 7 (508359) 345 kV. a. Apply fault at the WELSH 7 (508359) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9038-3PH	P1	3 Phase fault on DIANA 7 (508832) 345 kV to WELSH 7 (508359) 345 kV line CKT 1, near DIANA 7 (508832) 345 kV. a. Apply fault at the DIANA 7 (508832) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9039-3PH	P1	3 Phase fault on WELSH 7 (508359) 345 kV to SPPMAINBUS (5917) 345 kV line CKT 1, near WELSH 7 (508359) 345 kV. a. Apply fault at the WELSH 7 (508359) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9040-3PH	P1	3 Phase fault on WELSH 7 (508359) 345 kV to LYDIA 7 (508298) 345 kV line CKT 1, near WELSH 7 (508359) 345 kV. a. Apply fault at the WELSH 7 (508359) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9041-3PH	P1	3 Phase fault on WELSH 7 (508359) 345 kV to NWTXARK7 (508072) 345 kV line CKT 1, near WELSH 7 (508359) 345 kV. a. Apply fault at the WELSH 7 (508359) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9042-3PH	P1	3 Phase fault on WELSH 7 (508359) 345 kV to GEN-2021-038 (765660) 345 kV line CKT 1, near WELSH 7 (508359) 345 kV. a. Apply fault at the WELSH 7 (508359) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus G21-038-GEN1 (765662) 0.7 kV Trip generator(s) on the Bus G21-038-GEN2 (765665) 0.7 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9043-3PH	P1	3 Phase fault on DIANA 7 (508832) 345 kV / DIANA 4 (508831) 138 kV / DIANA-N1 (508845) 13.8 kV XFMR CKT 3, near DIANA 7 (508832) 345 kV. a. Apply fault at the DIANA 7 (508832) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line.
FLT9044-3PH	P1	3 Phase fault on DIANA 4 (508831) 138 kV / DIANA 7 (508832) 345 kV / DIANA-N1 (508845) 13.8 kV XFMR CKT 3, near DIANA 4 (508831) 138 kV. a. Apply fault at the DIANA 4 (508831) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9045-3PH	P1	3 Phase fault on DIANA 7 (508832) 345 kV to PIRKEY 7 (508563) 345 kV line CKT 1, near DIANA 7 (508832) 345 kV. a. Apply fault at the DIANA 7 (508832) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9046-3PH	P1	3 Phase fault on DIANA 7 (508832) 345 kV to SW SHV 7 (507760) 345 kV line CKT 1, near DIANA 7 (508832) 345 kV. a. Apply fault at the DIANA 7 (508832) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9047-3PH	P1	3 Phase fault on SW SHV 7 (507760) 345 kV to DIANA 7 (508832) 345 kV line CKT 1, near SW SHV 7 (507760) 345 kV. a. Apply fault at the SW SHV 7 (507760) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9048-3PH	P1	3 Phase fault on DIANA 4 (508831) 138 kV to PERDUE 4 (508351) 138 kV line CKT 1, near DIANA 4 (508831) 138 kV. a. Apply fault at the DIANA 4 (508831) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9049-3PH	P1	3 Phase fault on DIANA 4 (508831) 138 kV to NGPLTAP4 (508837) 138 kV line CKT 1, near DIANA 4 (508831) 138 kV. a. Apply fault at the DIANA 4 (508831) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9050-3PH	P1	3 Phase fault on DIANA 4 (508831) 138 kV to DIANASW4 (509639) 138 kV line CKT 1, near DIANA 4 (508831) 138 kV. a. Apply fault at the DIANA 4 (508831) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9051-3PH	P1	3 Phase fault on DIANA 4 (508831) 138 kV to SPRHILL4 (508571) 138 kV line CKT 1, near DIANA 4 (508831) 138 kV. a. Apply fault at the DIANA 4 (508831) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9052-3PH	P1	3 Phase fault on DIANA 4 (508831) 138 kV to LSSOUTH4 (508297) 138 kV line CKT 1, near DIANA 4 (508831) 138 kV. a. Apply fault at the DIANA 4 (508831) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9053-3PH	P1	3 Phase fault on LONGWD 7 (508809) 345 kV to SW SHV 7 (507760) 345 kV line CKT 1, near LONGWD 7 (508809) 345 kV. a. Apply fault at the LONGWD 7 (508809) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9054-3PH	P1	3 Phase fault on SW SHV 7 (507760) 345 kV to LONGWD 7 (508809) 345 kV line CKT 1, near SW SHV 7 (507760) 345 kV. a. Apply fault at the SW SHV 7 (507760) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9055-3PH	P1	3 Phase fault on SW SHV 7 (507760) 345 kV to DOLHILL7 (500250) 345 kV line CKT 1, near SW SHV 7 (507760) 345 kV. a. Apply fault at the SW SHV 7 (507760) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9056-3PH	P1	3 Phase fault on DOLHILL7 (500250) 345 kV to SW SHV 7 (507760) 345 kV line CKT 1, near DOLHILL7 (500250) 345 kV. a. Apply fault at the DOLHILL7 (500250) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9057-3PH	P1	3 Phase fault on SW SHV 7 (507760) 345 kV / SW SHV 4 (507759) 138 kV / SWSHV2-1 (507777) 13.8 kV XFMR CKT 2, near SW SHV 7 (507760) 345 kV. a. Apply fault at the SW SHV 7 (507760) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line.
FLT9058-3PH	P1	3 Phase fault on SW SHV 4 (507759) 138 kV / SW SHV 7 (507760) 345 kV / SWSHV2-1 (507777) 13.8 kV XFMR CKT 2, near SW SHV 4 (507759) 138 kV. a. Apply fault at the SW SHV 4 (507759) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9059-3PH	P1	3 Phase fault on DOLHILL7 (500250) 345 kV to DOLHILL6 (500260) 230 kV XFMR CKT 1, near DOLHILL7 (500250) 345 kV. a. Apply fault at the DOLHILL7 (500250) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line.
FLT9060-3PH	P1	3 Phase fault on DOLHILL6 (500260) 230 kV to DOLHILL7 (500250) 345 kV XFMR CKT 1, near DOLHILL6 (500260) 230 kV. a. Apply fault at the DOLHILL6 (500260) 230 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9061-3PH	P1	3 Phase fault on DOLHILL7 (500250) 345 kV to G1DOLHIL (501801) 24 kV XFMR CKT 1, near DOLHILL7 (500250) 345 kV. a. Apply fault at the DOLHILL7 (500250) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus G1DOLHIL (501801) 24 kV
FLT9062-3PH	P1	3 Phase fault on DOLHILL6 (500260) 230 kV to REDBAYOU_6 (500255) 230 kV line CKT 1, near DOLHILL6 (500260) 230 kV. a. Apply fault at the DOLHILL6 (500260) 230 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9063-3PH	P1	3 Phase fault on DOLHILL6 (500260) 230 kV to CARROLL6 (500140) 230 kV line CKT 1, near DOLHILL6 (500260) 230 kV. a. Apply fault at the DOLHILL6 (500260) 230 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9064-3PH	P1	3 Phase fault on SW SHV 4 (507759) 138 kV to POWELL 4 (507748) 138 kV line CKT 1, near SW SHV 4 (507759) 138 kV. a. Apply fault at the SW SHV 4 (507759) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9065-3PH	P1	3 Phase fault on POWELL 4 (507748) 138 kV to SW SHV 4 (507759) 138 kV line CKT 1, near POWELL 4 (507748) 138 kV. a. Apply fault at the POWELL 4 (507748) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9066-3PH	P1	3 Phase fault on POWELL 4 (507748) 138 kV to LINWOOD4 (507738) 138 kV line CKT 1, near POWELL 4 (507748) 138 kV. a. Apply fault at the POWELL 4 (507748) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9067-3PH	P1	3 Phase fault on SW SHV 4 (507759) 138 kV to SPRIDGE4 (507757) 138 kV line CKT 1, near SW SHV 4 (507759) 138 kV. a. Apply fault at the SW SHV 4 (507759) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9068-3PH	P1	3 Phase fault on SPRIDGE4 (507757) 138 kV to SW SHV 4 (507759) 138 kV line CKT 1, near SPRIDGE4 (507757) 138 kV. a. Apply fault at the SPRIDGE4 (507757) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9069-3PH	P1	3 Phase fault on SPRIDGE4 (507757) 138 kV to WLNTSPRINGS4 (509103) 138 kV line CKT 1, near SPRIDGE4 (507757) 138 kV. a. Apply fault at the SPRIDGE4 (507757) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9070-3PH	P1	3 Phase fault on SW SHV 4 (507759) 138 kV to S SHV 4 (507755) 138 kV line CKT 1, near SW SHV 4 (507759) 138 kV. a. Apply fault at the SW SHV 4 (507759) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9071-3PH	P1	3 Phase fault on S SHV 4 (507755) 138 kV to SW SHV 4 (507759) 138 kV line CKT 1, near S SHV 4 (507755) 138 kV. a. Apply fault at the S SHV 4 (507755) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9072-3PH	P1	3 Phase fault on S SHV 4 (507755) 138 kV / S SHV 2 (507754) 69 kV / SSHV2-1 (507776) 13.2 kV XFMR CKT 2, near S SHV 4 (507755) 138 kV. a. Apply fault at the S SHV 4 (507755) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9073-3PH	P1	3 Phase fault on S SHV 2 (507754) 69 kV / S SHV 4 (507755) 138 kV / SSHV2-1 (507776) 13.2 kV XFMR CKT 2, near S SHV 2 (507754) 69 kV. a. Apply fault at the S SHV 2 (507754) 69 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9074-3PH	P1	3 Phase fault on S SHV 4 (507755) 138 kV to HARTSIS4 (507735) 138 kV line CKT 1, near S SHV 4 (507755) 138 kV. a. Apply fault at the S SHV 4 (507755) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9075-3PH	P1	3 Phase fault on S SHV 4 (507755) 138 kV to WALLAKE4 (507765) 138 kV line CKT 1, near S SHV 4 (507755) 138 kV. a. Apply fault at the S SHV 4 (507755) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9076-3PH	P1	3 Phase fault on S SHV 4 (507755) 138 kV to CEDARGR4 (507771) 138 kV line CKT 1, near S SHV 4 (507755) 138 kV. a. Apply fault at the S SHV 4 (507755) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9077-3PH	P1	3 Phase fault on S SHV 4 (507755) 138 kV to WESTELC4 (507767) 138 kV line CKT 1, near S SHV 4 (507755) 138 kV. a. Apply fault at the S SHV 4 (507755) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9078-3PH	P1	3 Phase fault on SW SHV 4 (507759) 138 kV to GENMOTR4 (507732) 138 kV line CKT 1, near SW SHV 4 (507759) 138 kV. a. Apply fault at the SW SHV 4 (507759) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9079-3PH	P1	3 Phase fault on GENMOTR4 (507732) 138 kV to SW SHV 4 (507759) 138 kV line CKT 1, near GENMOTR4 (507732) 138 kV. a. Apply fault at the GENMOTR4 (507732) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9080-3PH	P1	3 Phase fault on SW SHV 4 (507759) 138 kV to LEASIDE 4 (507793) 138 kV line CKT 1, near SW SHV 4 (507759) 138 kV. a. Apply fault at the SW SHV 4 (507759) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9081-3PH	P1	3 Phase fault on LEASIDE 4 (507793) 138 kV to SW SHV 4 (507759) 138 kV line CKT 1, near LEASIDE 4 (507793) 138 kV. a. Apply fault at the LEASIDE 4 (507793) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9082-3PH	P1	3 Phase fault on LEASIDE 4 (507793) 138 kV to STONWAL4 (509052) 138 kV line CKT 1, near LEASIDE 4 (507793) 138 kV. a. Apply fault at the LEASIDE 4 (507793) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9083-3PH	P1	3 Phase fault on LEASIDE 4 (507793) 138 kV / LEASIDE 2 (507794) 69 kV / LEASIDE 1-1 (507795) 13.8 kV XFMR CKT 1, near LEASIDE 4 (507793) 138 kV. a. Apply fault at the LEASIDE 4 (507793) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9084-3PH	P1	3 Phase fault on LEASIDE 2 (507794) 69 kV / LEASIDE 4 (507793) 138 kV / LEASIDE 1-1 (507795) 13.8 kV XFMR CKT 1, near LEASIDE 2 (507794) 69 kV. a. Apply fault at the LEASIDE 2 (507794) 69 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9085-3PH	P1	3 Phase fault on LEASIDE 4 (507793) 138 kV to WESTELC4 (507767) 138 kV line CKT 1, near LEASIDE 4 (507793) 138 kV. a. Apply fault at the LEASIDE 4 (507793) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9086-3PH	P1	3 Phase fault on LONGWD 7 (508809) 345 kV to 7SAREPTA% (337376) 345 kV line CKT 1, near LONGWD 7 (508809) 345 kV. a. Apply fault at the LONGWD 7 (508809) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9087-3PH	P1	3 Phase fault on 7SAREPTA% (337376) 345 kV to LONGWD 7 (508809) 345 kV line CKT 1, near 7SAREPTA% (337376) 345 kV. a. Apply fault at the 7SAREPTA% (337376) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9088-3PH	P1	3 Phase fault on 7SAREPTA% (337376) 345 kV to 3SAREPTA! (337363) 115 kV XFMR CKT 1, near 7SAREPTA% (337376) 345 kV. a. Apply fault at the 7SAREPTA% (337376) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line.
FLT9089-3PH	P1	3 Phase fault on 3SAREPTA! (337363) 115 kV to 7SAREPTA% (337376) 345 kV XFMR CKT 1, near 3SAREPTA! (337363) 115 kV. a. Apply fault at the 3SAREPTA! (337363) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9090-3PH	P1	3 Phase fault on 7SAREPTA% (337376) 345 kV to 7EL DORADO (337562) 345 kV line CKT 1, near 7SAREPTA% (337376) 345 kV. a. Apply fault at the 7SAREPTA% (337376) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9091-3PH	P1	3 Phase fault on 7EL DORADO (337562) 345 kV to 7SAREPTA% (337376) 345 kV line CKT 1, near 7EL DORADO (337562) 345 kV. a. Apply fault at the 7EL DORADO (337562) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9092-3PH	P1	3 Phase fault on 3SAREPTA! (337363) 115 kV to 3CULLEN (337364) 115 kV line CKT 1, near 3SAREPTA! (337363) 115 kV. a. Apply fault at the 3SAREPTA! (337363) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9093-3PH	P1	3 Phase fault on 3CULLEN (337364) 115 kV to 3SAREPTA! (337363) 115 kV line CKT 1, near 3CULLEN (337364) 115 kV. a. Apply fault at the 3CULLEN (337364) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9094-3PH	P1	3 Phase fault on 3SAREPTA! (337363) 115 kV to 3SPRINGHILL (337365) 115 kV line CKT 1, near 3SAREPTA! (337363) 115 kV. a. Apply fault at the 3SAREPTA! (337363) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9095-3PH	P1	3 Phase fault on 3SPRINGHILL (337365) 115 kV to 3SAREPTA! (337363) 115 kV line CKT 1, near 3SPRINGHILL (337365) 115 kV. a. Apply fault at the 3SPRINGHILL (337365) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9096-3PH	P1	3 Phase fault on 3SPRINGHILL (337365) 115 kV to 3TAYLOR (337500) 115 kV line CKT 1, near 3SPRINGHILL (337365) 115 kV. a. Apply fault at the 3SPRINGHILL (337365) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9097-3PH	P1	3 Phase fault on 3SAREPTA! (337363) 115 kV to 3MINDEN_LA! (337361) 115 kV line CKT 1, near 3SAREPTA! (337363) 115 kV. a. Apply fault at the 3SAREPTA! (337363) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9098-3PH	P1	3 Phase fault on 3MINDEN_LA! (337361) 115 kV to 3SAREPTA! (337363) 115 kV line CKT 1, near 3MINDEN_LA! (337361) 115 kV. a. Apply fault at the 3MINDEN_LA! (337361) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9099-3PH	P1	3 Phase fault on 3MINDEN_LA! (337361) 115 kV to 3MINDEN_LG (303302) 115 kV line CKT 1, near 3MINDEN_LA! (337361) 115 kV. a. Apply fault at the 3MINDEN_LA! (337361) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9100-3PH	P1	3 Phase fault on 3MINDEN_LA! (337361) 115 kV to 3ADA_LA (337360) 115 kV line CKT 1, near 3MINDEN_LA! (337361) 115 kV. a. Apply fault at the 3MINDEN_LA! (337361) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9101-3PH	P1	3 Phase fault on 3MINDEN_LA! (337361) 115 kV to MINDEN-3 (507788) 115 kV line CKT 1, near 3MINDEN_LA! (337361) 115 kV. a. Apply fault at the 3MINDEN_LA! (337361) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9102-3PH	P1	3 Phase fault on 3MINDEN_LA! (337361) 115 kV to 3LA_ORD_PLNT (337362) 115 kV line CKT 1, near 3MINDEN_LA! (337361) 115 kV. a. Apply fault at the 3MINDEN_LA! (337361) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9103-3PH	P1	3 Phase fault on 3SAREPTA! (337363) 115 kV to 3HAYNESVILLE (337366) 115 kV line CKT 1, near 3SAREPTA! (337363) 115 kV. a. Apply fault at the 3SAREPTA! (337363) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9104-3PH	P1	3 Phase fault on 3HAYNESVILLE (337366) 115 kV to 3SAREPTA! (337363) 115 kV line CKT 1, near 3HAYNESVILLE (337366) 115 kV. a. Apply fault at the 3HAYNESVILLE (337366) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9105-3PH	P1	3 Phase fault on 3HAYNESVILLE (337366) 115 kV to 3EMERSON! (337526) 115 kV line CKT 1, near 3HAYNESVILLE (337366) 115 kV. a. Apply fault at the 3HAYNESVILLE (337366) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9106-3PH	P1	3 Phase fault on 8EL DORADO% (337561) 500 kV / 3EL DORADO! (337539) 115 kV / 1EL DORADO1 (337564) 13.8 kV XFMR CKT 1, near 8EL DORADO% (337561) 500 kV. a. Apply fault at the 8EL DORADO% (337561) 500 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line.
FLT9107-3PH	P1	3 Phase fault on 3EL DORADO! (337539) 115 kV / 8EL DORADO% (337561) 500 kV / 1EL DORADO1 (337564) 13.8 kV XFMR CKT 1, near 3EL DORADO! (337539) 115 kV. a. Apply fault at the 3EL DORADO! (337539) 115 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9108-3PH	P1	3 Phase fault on 8EL DORADO% (337561) 500 kV to 8MCNEIL% (337515) 500 kV line CKT 1, near 8EL DORADO% (337561) 500 kV. a. Apply fault at the 8EL DORADO% (337561) 500 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9109-3PH	P1	3 Phase fault on 8EL DORADO% (337561) 500 kV to 8PANDA% (338440) 500 kV line CKT 1, near 8EL DORADO% (337561) 500 kV. a. Apply fault at the 8EL DORADO% (337561) 500 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9110-3PH	P1	3 Phase fault on LIEBERM4 (508806) 138 kV to LONGWD 4 (508808) 138 kV line CKT 1, near LIEBERM4 (508806) 138 kV. a. Apply fault at the LIEBERM4 (508806) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9111-3PH	P1	3 Phase fault on 8EL DORADO% (337561) 500 kV to J1872 SUB (48723) 500 kV line CKT 1, near 8EL DORADO% (337561) 500 kV. a. Apply fault at the 8EL DORADO% (337561) 500 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus J1872 GEN (48720) 0.7 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9112-3PH	P1	3 Phase fault on 8EL DORADO% (337561) 500 kV to 8STERLING% (337420) 500 kV line CKT 1, near 8EL DORADO% (337561) 500 kV. a. Apply fault at the 8EL DORADO% (337561) 500 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9113-3PH	P1	3 Phase fault on 8EL DORADO% (337561) 500 kV to 8MT_OLIVE% (337368) 500 kV line CKT 1, near 8EL DORADO% (337561) 500 kV. a. Apply fault at the 8EL DORADO% (337561) 500 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9114-3PH	P1	3 Phase fault on 8EL DORADO% (337561) 500 kV to J1873 SUB (48733) 500 kV line CKT 1, near 8EL DORADO% (337561) 500 kV. a. Apply fault at the 8EL DORADO% (337561) 500 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. Trip generator(s) on the Bus J1873 GEN (48730) 0.7 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9115-3PH	P1	3 Phase fault on 8EL DORADO% (337561) 500 kV to 8SHERIDAN% (337643) 500 kV line CKT 1, near 8EL DORADO% (337561) 500 kV. a. Apply fault at the 8EL DORADO% (337561) 500 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 6 cycles, then trip the line in (b) and remove fault.
FLT9116-3PH	P1	3 Phase fault on LONGWD 7 (508809) 345 kV / LONGWD 4 (508808) 138 kV / LONGW1-1 (508819) 13.2 kV XFMR CKT 1, near LONGWD 7 (508809) 345 kV. a. Apply fault at the LONGWD 7 (508809) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line.
FLT9117-3PH	P1	3 Phase fault on LONGWD 4 (508808) 138 kV / LONGWD 7 (508809) 345 kV / LONGW1-1 (508819) 13.2 kV XFMR CKT 1, near LONGWD 4 (508808) 138 kV. a. Apply fault at the LONGWD 4 (508808) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9118-3PH	P1	3 Phase fault on LONGWD 4 (508808) 138 kV to OAKPH 4 (508816) 138 kV line CKT 1, near LONGWD 4 (508808) 138 kV. a. Apply fault at the LONGWD 4 (508808) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9119-3PH	P1	3 Phase fault on OAKPH 4 (508816) 138 kV to LONGWD 4 (508808) 138 kV line CKT 1, near OAKPH 4 (508816) 138 kV. a. Apply fault at the OAKPH 4 (508816) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9120-3PH	P1	3 Phase fault on OAKPH 4 (508816) 138 kV to FLOURNY4 (507727) 138 kV line CKT 1, near OAKPH 4 (508816) 138 kV. a. Apply fault at the OAKPH 4 (508816) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9121-3PH	P1	3 Phase fault on FLOURNY4 (507727) 138 kV to OAKPH 4 (508816) 138 kV line CKT 1, near FLOURNY4 (507727) 138 kV. a. Apply fault at the FLOURNY4 (507727) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9122-3PH	P1	3 Phase fault on FLOURNY4 (507727) 138 kV to GENMOTR4 (507732) 138 kV line CKT 1, near FLOURNY4 (507727) 138 kV. a. Apply fault at the FLOURNY4 (507727) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9123-3PH	P1	3 Phase fault on GENMOTR4 (507732) 138 kV to FLOURNY4 (507727) 138 kV line CKT 1, near GENMOTR4 (507732) 138 kV. a. Apply fault at the GENMOTR4 (507732) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9124-3PH	P1	3 Phase fault on FLOURNY4 (507727) 138 kV / FLOURNY2 (507726) 69 kV / FLOURNY1 (507740) 12.5 kV XFMR CKT 1, near FLOURNY4 (507727) 138 kV. a. Apply fault at the FLOURNY4 (507727) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9125-3PH	P1	3 Phase fault on FLOURNY2 (507726) 69 kV / FLOURNY4 (507727) 138 kV / FLOURNY1 (507740) 12.5 kV XFMR CKT 1, near FLOURNY2 (507726) 69 kV. a. Apply fault at the FLOURNY2 (507726) 69 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9126-3PH	P1	3 Phase fault on LONGWD 4 (508808) 138 kV to LIEBERM4 (508806) 138 kV line CKT 1, near LONGWD 4 (508808) 138 kV. a. Apply fault at the LONGWD 4 (508808) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9127-3PH	P1	3 Phase fault on LONGWD 4 (508808) 138 kV to NORAM 4 (507774) 138 kV line CKT 1, near LONGWD 4 (508808) 138 kV. a. Apply fault at the LONGWD 4 (508808) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9128-3PH	P1	3 Phase fault on NORAM 4 (507774) 138 kV to LONGWD 4 (508808) 138 kV line CKT 1, near NORAM 4 (507774) 138 kV. a. Apply fault at the NORAM 4 (507774) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9129-3PH	P1	3 Phase fault on LONGWD 4 (508808) 138 kV to G22-038-TAP (767740) 138 kV line CKT 1, near LONGWD 4 (508808) 138 kV. a. Apply fault at the LONGWD 4 (508808) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9130-3PH	P1	3 Phase fault on G22-038-TAP (767740) 138 kV to LONGWD 4 (508808) 138 kV line CKT 1, near G22-038-TAP (767740) 138 kV. a. Apply fault at the G22-038-TAP (767740) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9131-3PH	P1	3 Phase fault on G22-038-TAP (767740) 138 kV to GEN-2022-038 (767741) 138 kV line CKT 1, near G22-038-TAP (767740) 138 kV. a. Apply fault at the G22-038-TAP (767740) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. Trip generator(s) on the Bus G22-038GEN1 (767744) 0.6 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9132-3PH	P1	3 Phase fault on G22-038-TAP (767740) 138 kV to SCOTTSV4 (508567) 138 kV line CKT 1, near G22-038-TAP (767740) 138 kV. a. Apply fault at the G22-038-TAP (767740) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9133-3PH	P1	3 Phase fault on SCOTTSV4 (508567) 138 kV to G22-038-TAP (767740) 138 kV line CKT 1, near SCOTTSV4 (508567) 138 kV. a. Apply fault at the SCOTTSV4 (508567) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9134-3PH	P1	3 Phase fault on SCOTTSV4 (508567) 138 kV to SEMRSHL4 (508569) 138 kV line CKT 1, near SCOTTSV4 (508567) 138 kV. a. Apply fault at the SCOTTSV4 (508567) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9135-3PH	P1	3 Phase fault on NORAM 4 (507774) 138 kV to RAINES 4 (507749) 138 kV line CKT 1, near NORAM 4 (507774) 138 kV. a. Apply fault at the NORAM 4 (507774) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9136-3PH	P1	3 Phase fault on RAINES 4 (507749) 138 kV to NORAM 4 (507774) 138 kV line CKT 1, near RAINES 4 (507749) 138 kV. a. Apply fault at the RAINES 4 (507749) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9137-3PH	P1	3 Phase fault on RAINES 4 (507749) 138 kV to ARSHILL4 (507711) 138 kV line CKT 1, near RAINES 4 (507749) 138 kV. a. Apply fault at the RAINES 4 (507749) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9138-3PH	P1	3 Phase fault on ARSHILL4 (507711) 138 kV to RAINES 4 (507749) 138 kV line CKT 1, near ARSHILL4 (507711) 138 kV. a. Apply fault at the ARSHILL4 (507711) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9139-3PH	P1	3 Phase fault on ARSHILL4 (507711) 138 kV / ARSHILL2 (507710) 69 kV / ARSH2-1 (507714) 14.5 kV XFMR CKT 2, near ARSHILL4 (507711) 138 kV. a. Apply fault at the ARSHILL4 (507711) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9140-3PH	P1	3 Phase fault on ARSHILL2 (507710) 69 kV / ARSHILL4 (507711) 138 kV / ARSH2-1 (507714) 14.5 kV XFMR CKT 2, near ARSHILL2 (507710) 69 kV. a. Apply fault at the ARSHILL2 (507710) 69 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9141-3PH	P1	3 Phase fault on ARSHILL4 (507711) 138 kV to FTHUMB4 (507731) 138 kV line CKT 1, near ARSHILL4 (507711) 138 kV. a. Apply fault at the ARSHILL4 (507711) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9142-3PH	P1	3 Phase fault on ARSHILL4 (507711) 138 kV to MCWILLI4 (507742) 138 kV line CKT 1, near ARSHILL4 (507711) 138 kV. a. Apply fault at the ARSHILL4 (507711) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9143-3PH	P1	3 Phase fault on ARSHILL4 (507711) 138 kV to STLGENS4 (507789) 138 kV line CKT 1, near ARSHILL4 (507711) 138 kV. a. Apply fault at the ARSHILL4 (507711) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. Trip generator(s) on the Bus STALL6A (509391) 18 kV Trip generator(s) on the Bus STALL6B (509392) 18 kV Trip generator(s) on the Bus STALL6S (509393) 18 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9144-3PH	P1	3 Phase fault on ARSHILL4 (507711) 138 kV to LIEBERM4 (508806) 138 kV line CKT 1, near ARSHILL4 (507711) 138 kV. a. Apply fault at the ARSHILL4 (507711) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9145-3PH	P1	3 Phase fault on LIEBERM4 (508806) 138 kV to ARSHILL4 (507711) 138 kV line CKT 1, near LIEBERM4 (508806) 138 kV. a. Apply fault at the LIEBERM4 (508806) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9146-3PH	P1	3 Phase fault on LIEBERM4 (508806) 138 kV to IPCJEFF4 (508833) 138 kV line CKT 1, near LIEBERM4 (508806) 138 kV. a. Apply fault at the LIEBERM4 (508806) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9147-3PH	P1	3 Phase fault on IPCJEFF4 (508833) 138 kV to LIEBERM4 (508806) 138 kV line CKT 1, near IPCJEFF4 (508833) 138 kV. a. Apply fault at the IPCJEFF4 (508833) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9148-3PH	P1	3 Phase fault on IPCJEFF4 (508833) 138 kV to JEFFRSN4 (508835) 138 kV line CKT 1, near IPCJEFF4 (508833) 138 kV. a. Apply fault at the IPCJEFF4 (508833) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9149-3PH	P1	3 Phase fault on JEFFRSN4 (508835) 138 kV to IPCJEFF4 (508833) 138 kV line CKT 1, near JEFFRSN4 (508835) 138 kV. a. Apply fault at the JEFFRSN4 (508835) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9150-3PH	P1	3 Phase fault on JEFFRSN4 (508835) 138 kV to MARSHL-4 (508557) 138 kV line CKT 1, near JEFFRSN4 (508835) 138 kV. a. Apply fault at the JEFFRSN4 (508835) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9151-3PH	P1	3 Phase fault on JEFFRSN4 (508835) 138 kV to LAKEPIN4 (509624) 138 kV line CKT 1, near JEFFRSN4 (508835) 138 kV. a. Apply fault at the JEFFRSN4 (508835) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9152-3PH	P1	3 Phase fault on JEFFRSN4 (508835) 138 kV to WILKES 4 (508840) 138 kV line CKT 1, near JEFFRSN4 (508835) 138 kV. a. Apply fault at the JEFFRSN4 (508835) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9153-3PH	P1	3 Phase fault on LIEBERM4 (508806) 138 kV to G16-167-TAP (588404) 138 kV line CKT 1, near LIEBERM4 (508806) 138 kV. a. Apply fault at the LIEBERM4 (508806) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9154-3PH	P1	3 Phase fault on G16-167-TAP (588404) 138 kV to LIEBERM4 (508806) 138 kV line CKT 1, near G16-167-TAP (588404) 138 kV. a. Apply fault at the G16-167-TAP (588404) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9155-3PH	P1	3 Phase fault on G16-167-TAP (588404) 138 kV to NBENTON4 (508811) 138 kV line CKT 1, near G16-167-TAP (588404) 138 kV. a. Apply fault at the G16-167-TAP (588404) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9156-3PH	P1	3 Phase fault on G16-167-TAP (588404) 138 kV to GEN-2016-167 (588400) 138 kV line CKT 1, near G16-167-TAP (588404) 138 kV. a. Apply fault at the G16-167-TAP (588404) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. Trip generator(s) on the Bus G16-167-GEN1 (588403) 0.7 kV c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave Fault on for 7 cycles, then trip the line in (b) and remove fault.
FLT9157-3PH	P1	3 Phase fault on LIEBERM4 (508806) 138 kV / LIEBERM2 (508805) 69 kV / LBMN3-1 (508822) 13.2 kV XFMR CKT 3, near LIEBERM4 (508806) 138 kV. a. Apply fault at the LIEBERM4 (508806) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9158-3PH	P1	3 Phase fault on LIEBERM2 (508805) 69 kV / LIEBERM4 (508806) 138 kV / LBMN3-1 (508822) 13.2 kV XFMR CKT 3, near LIEBERM2 (508805) 69 kV. a. Apply fault at the LIEBERM2 (508805) 69 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9159-3PH	P1	3 Phase fault on LIEBERM4 (508806) 138 kV to LIEBR3-1 (509401) 13.8 kV XFMR CKT 1, near LIEBERM4 (508806) 138 kV. a. Apply fault at the LIEBERM4 (508806) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9160-3PH	P1	3 Phase fault on LIEBERM4 (508806) 138 kV to LIEBR2-1 (509400) 13.8 kV XFMR CKT 1, near LIEBERM4 (508806) 138 kV. a. Apply fault at the LIEBERM4 (508806) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line. Trip generator(s) on the Bus LIEBR2-1 (509400) 13.8 kV
FLT9161-3PH	P1	3 Phase fault on LIEBERM4 (508806) 138 kV to LIEBR4-1 (509402) 13.8 kV XFMR CKT 1, near LIEBERM4 (508806) 138 kV. a. Apply fault at the LIEBERM4 (508806) 138 kV Bus. b. Clear fault after 7 cycles by tripping the faulted line.
FLT9162-3PH	P1	3 Phase fault on 7EL DORADO (337562) 345 kV / 8EL DORADO% (337561) 500 kV / 1EL DORADO2 (337565) 13.8 kV XFMR CKT 1, near 7EL DORADO (337562) 345 kV. a. Apply fault at the 7EL DORADO (337562) 345 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line.

Table 6-1 Continued

Fault ID	Planning Event	Fault Descriptions
FLT9163-3PH	P1	3 Phase fault on 8EL DORADO% (337561) 500 kV / 7EL DORADO (337562) 345 kV / 1EL DORADO2 (337565) 13.8 kV XFMR CKT 1, near 8EL DORADO% (337561) 500 kV. a. Apply fault at the 8EL DORADO% (337561) 500 kV Bus. b. Clear fault after 6 cycles by tripping the faulted line.

6.3 Results

Table 6-2 shows the relevant results of the fault events simulated for each of the modified models. Existing DISIS base case issues are documented separately in Appendix C. The associated stability plots are also provided in Appendix C.

Table 6-2: GEN-2018-106 Dynamic Stability Results

Fault ID	25SP			25WP		
	Voltage Violation	Voltage Recovery	Stable	Voltage Violation	Voltage Recovery	Stable
FLT1000-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1001-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1002-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1003-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1004-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1005-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1006-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1007-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1008-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1009-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1010-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1011-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1012-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1013-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1014-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1015-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1016-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1017-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1018-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1019-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1020-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1021-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1022-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1023-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1024-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1025-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1026-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1027-SB	Pass	Pass	Stable	Pass	Pass	Stable

Table 6-2 continued

Fault ID	25SP			25WP		
	Voltage Violation	Voltage Recovery	Stable	Voltage Violation	Voltage Recovery	Stable
FLT1028-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1029-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1030-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1031-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1032-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1033-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1034-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1035-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1036-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1037-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1038-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT1039-SB	Pass	Pass	Stable	Pass	Pass	Stable
FLT9000-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9001-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9002-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9003-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9004-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9005-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9006-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9007-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9008-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9009-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9010-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9011-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9012-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9013-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9014-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9015-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9016-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9017-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9018-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9019-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9020-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9021-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9022-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9023-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9024-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9025-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9026-3PH	Pass	Pass	Stable	Pass	Pass	Stable

Table 6-2 continued

Fault ID	25SP			25WP		
	Voltage Violation	Voltage Recovery	Stable	Voltage Violation	Voltage Recovery	Stable
FLT9027-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9028-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9029-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9030-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9031-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9032-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9033-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9034-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9035-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9036-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9037-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9038-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9039-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9040-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9041-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9042-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9043-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9044-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9045-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9046-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9047-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9048-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9049-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9050-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9051-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9052-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9053-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9054-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9055-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9056-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9057-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9058-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9059-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9060-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9061-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9062-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9063-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9064-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9065-3PH	Pass	Pass	Stable	Pass	Pass	Stable

Table 6-2 continued

Fault ID	25SP			25WP		
	Voltage Violation	Voltage Recovery	Stable	Voltage Violation	Voltage Recovery	Stable
FLT9066-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9067-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9068-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9069-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9070-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9071-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9072-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9073-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9074-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9075-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9076-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9077-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9078-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9079-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9080-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9081-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9082-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9083-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9084-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9085-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9086-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9087-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9088-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9089-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9090-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9091-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9092-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9093-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9094-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9095-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9096-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9097-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9098-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9099-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9100-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9101-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9102-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9103-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9104-3PH	Pass	Pass	Stable	Pass	Pass	Stable

Table 6-2 continued

Fault ID	25SP			25WP		
	Voltage Violation	Voltage Recovery	Stable	Voltage Violation	Voltage Recovery	Stable
FLT9105-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9106-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9107-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9108-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9109-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9110-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9111-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9112-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9113-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9114-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9115-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9116-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9117-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9118-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9119-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9120-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9121-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9122-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9123-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9124-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9125-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9126-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9127-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9128-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9129-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9130-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9131-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9132-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9133-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9134-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9135-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9136-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9137-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9138-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9139-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9140-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9141-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9142-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9143-3PH	Pass	Pass	Stable	Pass	Pass	Stable

Table 6-2 continued

Fault ID	25SP			25WP		
	Voltage Violation	Voltage Recovery	Stable	Voltage Violation	Voltage Recovery	Stable
FLT9144-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9145-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9146-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9147-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9148-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9149-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9150-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9151-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9152-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9153-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9154-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9155-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9156-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9157-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9158-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9159-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9160-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9161-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9162-3PH	Pass	Pass	Stable	Pass	Pass	Stable
FLT9163-3PH	Pass	Pass	Stable	Pass	Pass	Stable

The results of the dynamic stability showed several existing base case issues that were found in both the original DISIS-2022-001-1 models and the models with the GEN-2018-106 modification included. These issues were not attributed to the GEN-2018-106 modification request and detailed in Appendix C.

There were no damping or voltage recovery violations attributed to the GEN-2018-106 modification request 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.

7.0 Modified Capacity Exceeds GIA Capacity

Under FERC Order 845, Interconnection Customers are allowed to request Interconnection Service that is lower than the full generating capacity of their planned generating facilities. The Interconnection Customers must install acceptable control and protection devices that prevent the injection above their requested Interconnection Service amount measured at the POI.

As such, Interconnection Customers are allowed to increase the generating capacity of a generating facility without increasing its Interconnection Service amount stated in its GIA. This is allowable as long as they install the proper control and protection devices, and the requested modification is not determined to be a Material Modification.

The modified generating capacity of GEN-2018-106 exceeds the GIA Interconnection Service amount, 165 MW, as listed in Appendix A of the GIA.

The customer must install monitoring and control equipment as needed to ensure that the amount of power injected at the POI does not exceed the Interconnection Service amount listed in its GIA.

8.0 Material Modification Determination

In accordance with Attachment V of SPP's Open Access Transmission Tariff, for modifications other than those specifically permitted by Attachment V, SPP shall evaluate the proposed modifications prior to making them and inform the Interconnection Customer in writing of whether the modifications would constitute a Material Modification. Material Modification shall mean (1) modification to an Interconnection Request in the queue that has a material adverse impact on the cost or timing of any other Interconnection Request with a later Queue priority date; or (2) planned modification to an Existing Generating Facility that is undergoing evaluation for a Generating Facility Modification or Generating Facility Replacement, and has a material adverse impact on the Transmission System with respect to: i) steady-state thermal or voltage limits, ii) dynamic system stability and response, or iii) short-circuit capability limit; compared to the impacts of the Existing Generating Facility prior to the modification or replacement.

8.1 Results

SPP determined the requested modification is not a Material Modification based on the results of this Modification Request Impact Study performed by Aneden. Aneden evaluated the impact of the requested modification on the prior study results. Aneden determined that the requested modification did not negatively impact the prior study dynamic stability and short circuit results, and the modifications to the project were not significant enough to change the previously studied steady-state conclusions.

This determination implies that any network upgrades already required by GEN-2018-106 would not be negatively impacted and that no new upgrades are required due to the requested modification, thus not resulting in a material adverse impact on the cost or timing of any other Interconnection Request with a later Queue priority date.