Enhanced Powerline Safety Settings (EPSS) and Patrol Process

SUMMARY

This utility procedure describes the process for implementing Enhanced Powerline Safety Settings (EPSS). This document also provides information on the automated features that interact with applications used by distribution operators (DO).

Level of Use: Informational Use

TARGET AUDIENCE

This procedure applies to all employees who respond to and patrol EPSS outages.

SAFETY

Failure to follow proper EPSS, patrolling, and restoration procedures may result in employee injury, public safety exposure, or damage to facilitates.

BEFORE YOU START

PERFORM operating, switching, and restoration procedures safely and in accordance with Utility Standard SAFE-1001S, "PG&E Injury & Illness Prevention Plan (IIPP)," and the *Code of Safe Practices*.

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PROCEDURE STEPS

1 General Information

1.1 EPSS enablement is based on criteria that are reviewed and approved by the Wildfire Risk Governance Committee.

1. WHEN criteria are met,

   THEN the DOs are directed to enable EPSS on identified devices.

2 EPSS Enablement Process

2.1 Electric Distribution Asset Planning PROVIDES a list of circuits/devices (real time [RT] Supervisory Control and Data Acquisition [SCADA], Advanced Distribution Management System [ADMS] SCADA, and non-SCADA) to be enabled that have EPSS installed.

1. USE the EPSS Operator Playbooks website[1] to verify the devices' desired EPSS status. REFER to TD-2700P-26-JA01 for instructions on how to use the playbooks.

2.2 The DO ENABLES EPSS on all prescribed devices (CB level and below).

1. NAVIGATE to the device in ADMS SCADA or RT SCADA.
2. CUT OUT the reclosing relay.
3. ENABLE EPSS AND TAG the control point caution.
   a. EPSS settings are instantaneous trip settings with small delays.
   b. Optional: ENABLE sensitive ground fault (SGF).
4. DISABLE fault location, isolation, and service restoration (FLISR) at the circuit level, AND TAG caution on all EPSS enabled circuits.

   DO NOT DISABLE FLISR on adjacent circuits unless enabled with EPSS.
5. DISPATCH field personnel immediately to all devices without ADMS SCADA or RT SCADA or with communication failure to cut out the reclosing relay AND ENABLE EPSS.

2.3 Enabling EPSS On All Prescribed Automatic High Devices

1. The DO RECEIVES a spreadsheet via email with a list of all high-side devices (e.g., circuit breakers, circuit switchers) to be EPSS-enabled for the season.

[1] Only available to authorized personnel.

2.3 (continued)

NOTE

The spreadsheet with the list of high-side devices and their desired EPSS status may also be accessed through a button at the top of the EPSS Operator Playbook website.

2. PLACE high- side devices on manual (MAN) to enable EPSS.

   a. IF the device is RT SCADA operable,

      THEN TAG "Caution" in RT SCADA AND PLACE an EPSS tag on the device in DMS.

   b. IF the device is ADMS SCADA operable,

      THEN TAG "EPSS" in ADMS AND VERIFY ADMS automatically tags that device in DMS.

   c. IF the device is not capable of remote operation,

      THEN DISPATCH personnel to the device in the substation to place the device on MAN AND TAG "Caution" as soon as possible.

   d. WHEN the field reports the device is on MAN AND TAGGED CAUT,

      PLACE an EPSS tag on the device in DMS.

3. RECORD all actions taken in the ILIS Routing Log.

2.4 After EPSS is enabled on all devices on the prescribed list, the DO COMPLETES the following actions in the Integrated Logging Information System (ILIS) (SEE Figure 1 on Page 4):

1. NAVIGATE to the Distribution Operator Dashboard (DOD) AND SELECT the EPSS tab/page.

2. SELECT the affected circuit from the drop-down menu.

3. CLICK the empty box next to the listed device that has EPSS enabled.

4. IF all the devices are involved,

   THEN CLICK the **Enable All Devices** button to place a check mark in all the boxes.

   a. The auto-populated information in the Tag Comments section populates in DOD and DMS EPSS tags next to the selected devices.

2.4 (continued)

5. ENTER EPSS comments with the following information:

   a. In the Tag Comment field, ENTER text that states EPSS is being enabled.

   b. IF the circuit has FLISR,

      THEN RECORD that FLISR has been disabled.

6. ENTER text into the required EPSS Comments field.

7. CLICK **Save**.

NOTE
The Routine Log automatically enters the updated EPSS information.

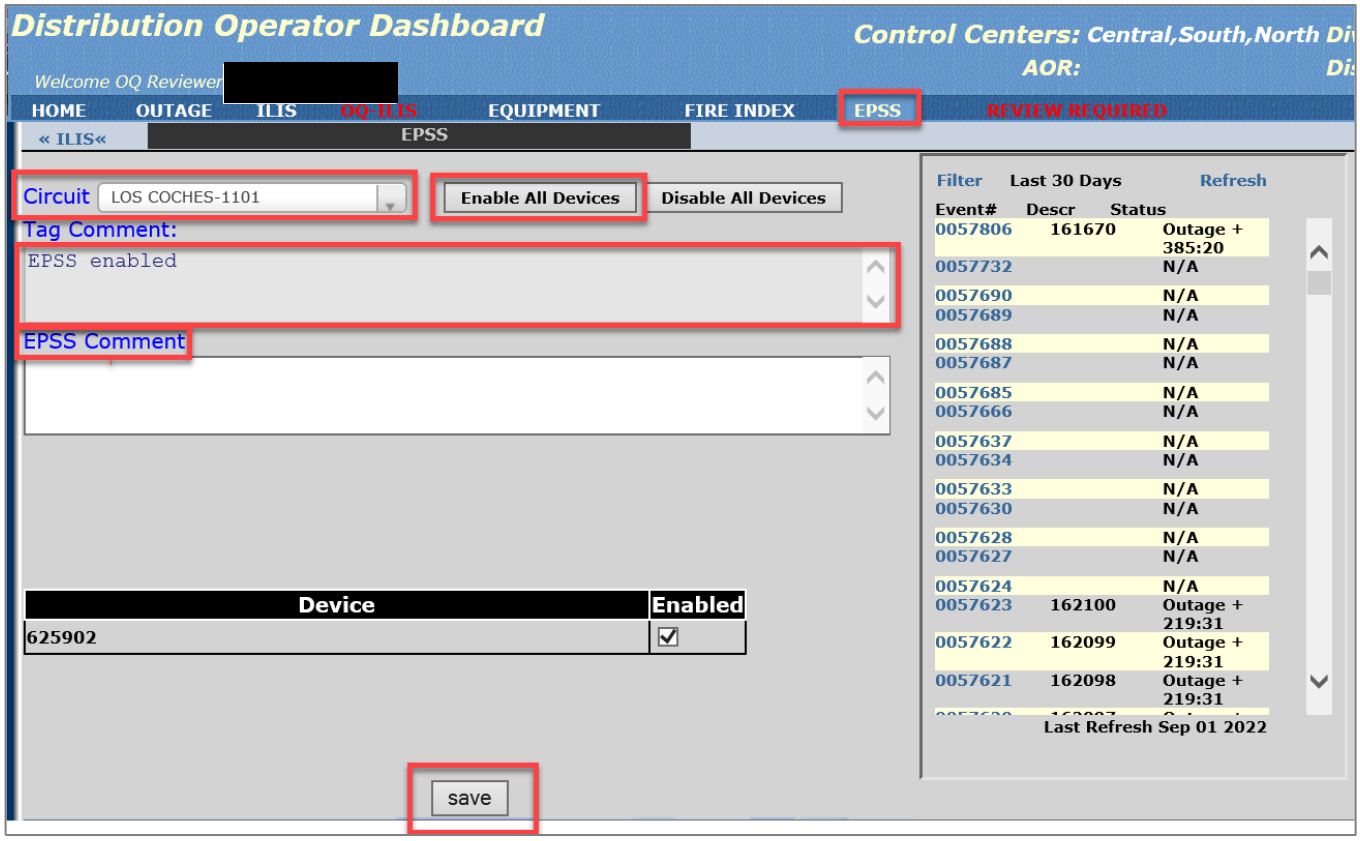

Figure 1. Distribution Operator Dashboard (DOD) – Illustrative

2.5 Distribution Management System (DMS): An EPSS tag is automatically placed on every device listed under the circuit selected on the ILIS EPSS page (SEE Figure 2 on Page 5).

Enhanced Powerline Safety Settings (EPSS) and Patrol Process

2.5 (continued)

Figure 2. EPSS Tag – Illustrative

1. For EPSS enabled devices that have not yet been added to the ILIS device list, **manually** TAG the device with an EPSS tag in DMS AND ADD appropriate comments to the Comment box (SEE Figure 3 below).

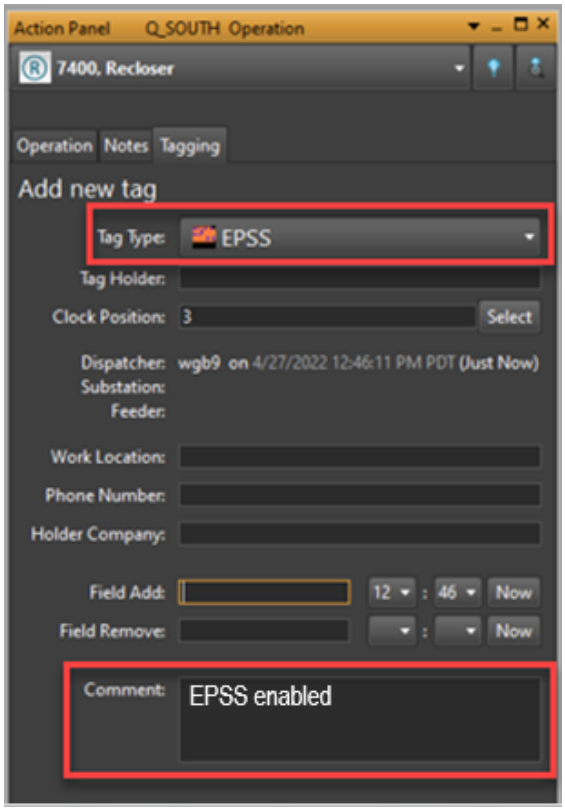

Figure 3. Manual EPSS Tag – Illustrative)

3 Placing New EPSS Devices in Service

3.1 LEAVE the new device in normal profile with the reclose relay cut out.

1. IF EPSS is active on the conductor being protected by this device,

   THEN CUT OUT/CHK CUT OUT the reclose relay AND ENABLE EPSS on the device.

2. WHEN SCADA is released,

   VERIFY the device status is correct, including proper tagging.

3. WHEN a new device is added to the ILIS device list.

   THEN REPEAT the instructions in Step 2.3 on Page 2 to place an auto-generated tag on the new device in DMS AND REMOVE the manually placed tag in DMS

4 EPSS Enabled Outage Information and Requirements

4.1 WHEN an outage occurs:

1. The Outage Management Tool (OMT) District Summary page displays a “Y” in the EPSS column for each EPSS enabled outage (SEE Figure 4 below).

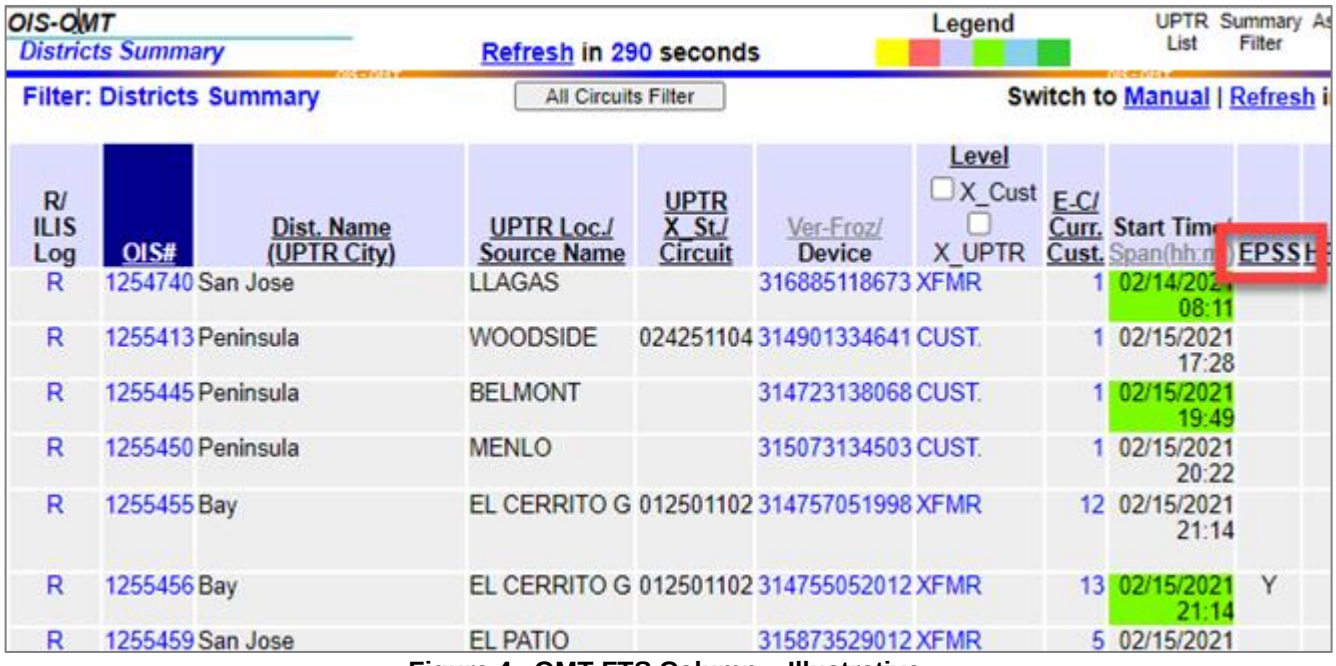

Figure 4. OMT FTS Column – Illustrative

2. The Outage Dispatch Tool (ODT) displays the checked EPSS box (SEE Figure 5 on Page 7).

4.1 (continued)

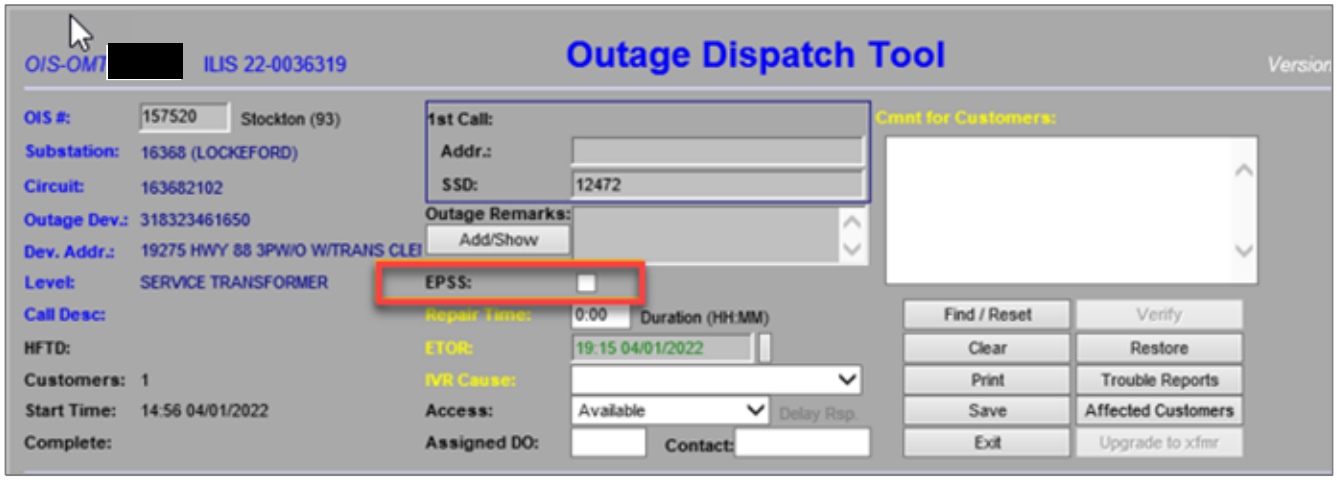

Figure 5. ODT Check Box – Illustrative

3. IF the automatic device that locks out is an EPSS device with an EPSS tag,

   THEN a check is automatically placed in the EPSS checkbox on the ILIS outage report.

5 Patrolling and Restoring an Unplanned EPSS Outage

5.1 Energizing or De-Energizing Planned Outages

1. IF picking up or dropping load during planned switching is determined to be the cause of the EPSS outage,

   THEN the DO can RESTORE the outage without conducting a patrol.

   a. RECORD the cause of the outage in ILIS as “Company Initiated; Personnel, Company.”

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5.1 (continued)

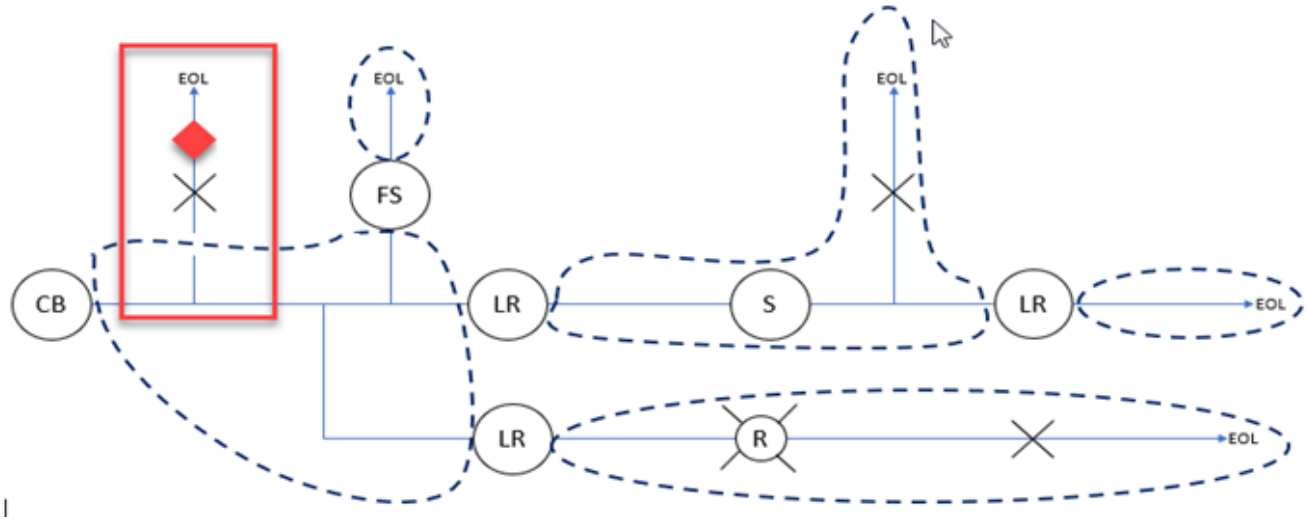

Figure 6. EPSS Zone of Protection – Illustrative

5.2 PATROL the entire EPSS zone of protection for the locked out automatic protective device (SEE Figure 6 above).

1. PATROL beyond fuses, TripSavers, and non-EPSS enabled devices **with the following exceptions**:

   a. IF obvious trouble is found (e.g., car-pole, tree, branch through the line) AND is determined to be the initial cause of the outage given targeting and field reports,

   THEN PATROL only the de-energized overhead line through which the fault current passed (e.g., from the found trouble to the automatic protective device that locked out).

NOTE

Additional fault current sources (e.g., grounded autotransformers, distributed generation) may cause protective or fault indicating devices to target and/or lock out downstream or on unrelated circuit branches of a confirmed fault location (SEE Step 5.8 on Page 12).

2. IF trouble with no cause is found (e.g., wire down, wrapped conductor),

   THEN PATROL the EPSS zone of protection for the automatic device that locked out, up to and beyond the fuses and TripSavers in that zone of protection.

3. PATROL joint use privately owned lines (POLs) before re-energization.

5.2 (continued)

4. IF damage is identified on a POL during a patrol,

   THEN patrol personnel COMPLETE AND SUBMIT Form TD-2014P-01-F01, "Third Party Utility Notification Of Potential Violations And Safety Hazards," to notify the owner of the need for repair and that PG&E will not re-energize until the POL owner has completed the repairs.

5. PG&E NOTIFIES additional customers that are served off a damaged POL of continued de-energization until damage to non-PG&E- asset(s) is repaired by the POL owner.

   For more information on POLs, SEE Utility Procedure TD-2015P-02, "Procedure for Privately Owned Lines (POLS)."

6. ISOLATE customer owned lines (COLs) before energizing.

   a. The field/crew NOTIFIES the customer that they will remain out of power until they patrol their COL and report to PG&E that their lines are safe to energize.

   b. The field/crew CLOSES device energizing COL after the customer reports that their line is safe to energize.

5.3 Any faulted distribution line device within the de-energized zone of protection (e.g., SCADA Mate, multi-functional [MF] device), except for TripSavers, can be used to identify the fault location.

1. IF a faulted distribution line device is found within the zone of protection of the locked-out device,

   THEN the appropriate employees **must** PERFORM the following actions:

   a. OPEN the faulted device to isolate the faulted area.

   b. PATROL the de-energized overhead line through which the fault current passed.

   c. ENERGIZE from the source side up to the device used to isolate the faulted zone.

   d. PATROL AND ENERGIZE per the directions in Section 5, starting on Page 7.

5.4 Fault Indicators and Line Sensors with Good Communication

1. Non-Fused Tap and Mainline Installations

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5.4 (continued)

a. Within the first 4 hours, **only** faulted overhead fault indicators (FIs) and faulted line sensors with good communication identified by field personnel may be used as information to reduce the patrol footprint (SEE Figure 7 below).

b. DO NOT USE fault indicators (including line sensors) indicating clear/no fault to reduce the patrol footprint, except for Navigator LMs (SEE Figure 8 below for an image of Navigator LM. SEE Figures 1, 2, and 3 in Attachment 1, "Using Navigator Fault Indicators to Restore an EPSS Outage," for all navigator use case examples).

2. Fused Tap Line FI Installation Use

a. Within the first 4 hours, FIs that indicate faulted (SEE Figure 4 in Attachment 1) or any type of Navigator FIs that indicate clear identified by field personnel may be used as information to reduce the patrol footprint.

3. For lockouts on SGF, DO NOT USE fault indicators to reduce the patrol footprint, whether installed on main lines or fused tap lines, as fault indicators do not detect under an SGF-protective operation.

Figure 7. Navigator Fault Indicator

Figure 8. Navigator LM Fault Indicator

Enhanced Powerline Safety Settings (EPSS) and Patrol Process

5.4 (continued)

Table 1. Fault Indicating Device Use During EPSS Outages

Can fault indicating devices within the zone of protection of the locked-out device be used during EPSS outages? *		
DEVICES	**FAULTED**	**CLEAR**
Line Sensors (good communication)	Yes	No
All FI's – Non-Fused Tap Line and Mainline (within first 4 hours)	Yes	*Yes (Navigator LMs only)
All FI's – Fused Tap Line (within first 4 hours)	Yes	*Yes (Any Navigator only)
Distribution Line Device	Yes	No
Trip Savers	No	No

* Note: This table does not apply to downed conductor detection (DCD) or SGF outages.

5.5 Devices with Hot-Line Tag (HLT) Enabled for EPSS Protection

1. IF a device has HLT enabled for EPSS protection,

   THEN PATROL the entire de-energized line **with the following exceptions:**

   a. IF obvious trouble is found (e.g., car-pole, tree, branch through the line) AND is determined to be the initial cause of the outage given targeting and field reports,

      THEN PATROL only the de-energized overhead line through which the fault current passed (i.e., from the found trouble to the automatic protective device that locked out).

   b. IF trouble with no cause is found (e.g., wire down, wrapped conductor),

      THEN PATROL the entire de-energized line, up to and beyond the fuses and TripSavers.

   c. Within the first 4 hours, REDUCE the patrol footprint by using overhead Navigator FIs identified by field personnel found on fused tap lines only.

   d. REDUCE the patrol footprint by using faulted line sensors with good communication.

5.6 Restoration

1. Before restoring power, COMPLETE the following actions:

   a. MITIGATE all hazards before restoring power to the de-energized line.

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5.6 (continued)

b. DISABLE EPSS on all devices that pick up load during restoration efforts.

c. Once restoration is complete, RE-ENABLE EPSS on devices.

(1) ENSURE that all tagging has been replaced and is accurate.

NOTE

Stripping the main line of fuses and TripSavers can allow for quicker energization for most affected customers.

2. WHEN a source outage occurs (e.g., loss of transmission line),

THEN DISABLE EPSS on all devices that will pick up load before step restoration activities begin.

a. OPEN the SCADA mainline device to allow for step restoration, if possible.

3. IF an outage occurs on a circuit that no longer requires that EPSS be enabled but the settings have not yet been returned to normal,

THEN RETURN the settings to normal AND TROUBLESHOOT as a non-EPSS outage.

5.7 Multiple Devices Trip Simultaneously

1. The DO ENGAGES the distribution operations engineer (DOE) via phone call and email AND PROVIDES outage details.

2. The DOE ANALYZES the outage using all available tools.

3. IF the DOE DETERMINES the fault condition passed through multiple devices,

THEN the DOE ENDORSES patroling only beyond the farthest downstream protective device that experienced the fault.

OTHERWISE, PATROL all required zones.

4. The DOE REPORTS to the DO via phone call and email with a complete analysis and recommendations on how to proceed.

5.8 Device Trips on SGF with Autotransformer, Downstream Generation, or a Grounding Bank on the Circuit

1. The DO ENGAGES the DOE via call and email AND PROVIDES outage details.

5.8 (continued)

2. The DOE ANALYZES the outage using all available tools.

3. IF the DOE DETERMINES that a residual ground (51N, 50N) or SGF (50GS) nuisance trip occurred because of auto-TX, downstream generation, and/or grounding BK current contribution,

   THEN the DOE ENDORSES not patrolling zones that are not in the direct path of the fault to the source.

   OTHERWISE, PATROL all required zones.

4. The DOE REPORTS to the DO via phone call and email, supplying a complete analysis and recommendations on how to proceed.

5.9 Device Trips Due to Suspected Loading Issue

1. The DO ENGAGES the DOE via phone call and email AND PROVIDES outage details.

2. The DOE ANALYZES the outage using all available tools.

3. IF the DOE DETERMINES that the outage was caused by unintentional or unforeseen excessive loading conditions (i.e., not faulted),

   THEN the DOE ENDORSES not patrolling AND PROVIDES a mitigation strategy for immediate restoration (e.g., load transfer, raise MTTs, cut out SGF).

   OTHERWISE, PATROL all required zones.

4. The DOE REPORTS to the DO via phone call and email, providing a complete analysis and recommendations on how to proceed.

5.10 Single or Multiple Device Trip Occurs Due to Transformer, Motor, or Load Inrush

1. The DO ENGAGES the DOE via phone call and email AND PROVIDES outage details.

2. The DOE ANALYZES the outage using all available tools.

3. IF the DOE DETERMINES that transformer, motor, or load inrush has caused a protective device’s nuisance trip,

   THEN the DOE ENDORSES the exclusion of patrol AND PROVIDES a mitigation strategy for immediate restoration (e.g., disable EPSS, C/OUT SGF).

   OTHERWISE, PATROL all required zones.

5.10 (continued)

4. IF the DOE DETERMINES that DCD is also detected on a downstream device,

   THEN the DOE ENDORSES patrolling only beyond the farthest downstream protective device that experienced the DCD event.

   OTHERWISE:

   a. IF obvious trouble is found (e.g., car-pole, tree, branch through the line), AND is determined to be the initial cause of the outage given targeting and field reports,

      THEN PATROL only the de-energized overhead line through which the fault current passed (i.e., from the found trouble to the automatic protective device that locked out).

   b. IF trouble with no cause is found (e.g., wire down, wrapped conductor),

      THEN PATROL the entire de-energized line, up to and beyond the fuses and TripSavers.

5. The DOE REPORTS to the DO via phone call and email with a complete analysis and recommendations on how to proceed.

5.11 Device Trips on Downed Conductor Detection (DCD) Target

1. IF an EPSS enabled device trips on DCD target due to planned switching,

   THEN FOLLOW the process described in Section 5.1.1 on Page 7. OTHERWISE, PROCEED to next steps below.

2. The DO ENGAGES the DOE via phone call and email, providing outage details.

3. The DOE ANALYZES the outage using all available tools.

4. The DOE REPORTS to the DO via phone call and email with a complete analysis and recommendations on how to proceed.

5.12 Device Trips on SGF with EPSS enabled

1. PATROL the entire de-energized line up to the next SGF-enabled device including beyond fuses and TripSavers with the following exception:

   a. IF obvious trouble is found (e.g., car-pole, tree, branch) and is determined to be the initial cause of the outage given information gathered,

5.12 (continued)

THEN PATROL only the de-energized line where the fault current passed (i.e., from the found trouble to the automatic protective device that locked out.)

2. IF trouble with no cause is found (e.g., wire down, blown lightening arrestor)

   THEN PATROL the entire de-energized line up to the next SGF enabled device including beyond fuses and TripSavers.

5.13 Depending on weather conditions, approval for one test on circuits experiencing an EPSS outage may be granted without patrolling.

1. USE PG&E's weather map to identify circuits that have met meteorological thresholds for approved weather-related testing.

   a. LOG the validation of meteorology approval in ILIS.

   b. VALIDATE personnel in the clear before testing.

   c. MITIGATE all hazards before testing.

   d. CLOSE for a single test.

      (1) IF the test is no good (NG),

      THEN FOLLOW Section 5.2 on Page 8.

5.14 Transmission Level EPSS Outages Affecting Distribution Fused Transformer Banks

1. Transmission engages system protection engineers to provide information on the faulted line.

2. IF the system protection engineer determines that the fault is not load side of the high-side fuses of a distribution transformer bank.

   THEN **no** distribution transformer bank inspection is required; RESTORE customers using all available resources as allowed.

3. IF the system protection engineer determines that the fault is load side of the high-side fuses of a distribution transformer bank,

   THEN DETERMINE if a cause is found or no cause is found.

   a. IF a cause is found, all hazards are mitigated, and it can be determined that all assets are safe to energize,

5.14 (continued)

THEN a bank inspection is not required; RESTORE customers using all available resources as allowed.

b. IF no cause is found,

THEN PERFORM a complete bank inspection on all banks that could have possible faults per Form TD-3322M-F41, "Transformer/LTC/Regulator Visual Inspection After Fault Checklist."

6 Responding to a Partial Voltage Outage with EPSS Enabled

6.1 IF SmartMeters are reporting a partial voltage outage that is fuse-level or above (SEE Figure 9 on Page 17) that **has not** rolled up to a 3-phase gang-operated protective device,

THEN LOCATE the next operable 3-phase gang operated SCADA device source-side of partial voltage outage calls immediately, AND OPEN de-energizing section.

1. De-energizing **must** take place as soon as the operator is aware of the partial voltage condition.

6.2 IF SmartMeters are reporting a partial voltage outage with the following conditions:

- At fuse level or above (SEE Figure 9 on Page 17).
- Rolled up to a 3-phase gang-operated protective device.
- The 3-phase gang-operated device has NOT tripped.

THEN LOCATE the 3-phase gang-operated SCADA device source-side of partial voltage outage calls immediately, AND OPEN de-energizing section.

6.2 (continued)

Figure 9. Example of Partial Voltage Outage Calls

6.3 Partial Voltage Outage Reporting

1. OPEN the 3-phase gang-operated SCADA device in DMS that was operated to de-energize the section experiencing partial voltage.

2. SELECT “Create New?” and the “YES” radio button in response to: “Is this a Partial Voltage Outage” in the outage action panel pop-up (see Figure 10 on Page 18).

3. After the cause of the original partial voltage is determined, the ILIS outage report fields listed below **must** be assessed for change, due to operators using the incorrect device to start the outage, as cause of partial voltage calls is not initially known:

   a. Equip ID

   b. Equip Type

   c. Customers

      (1) ADJUST customer count under the “Restored” column in the line item of the SCADA device that was operated to de-energize the partial voltage section. This should be a negative number determined by taking all customers load side of the device used to mitigate, minus the number of customers involved in the partial voltage outage.

   d. Equip Addr

6.3 (continued)

NOTE

"Fault Type" in the outage report will **not** be "Force Out." "Fault Type" should be selected based on what caused the partial voltage outage, not the action taken to mitigate the potential hazard.

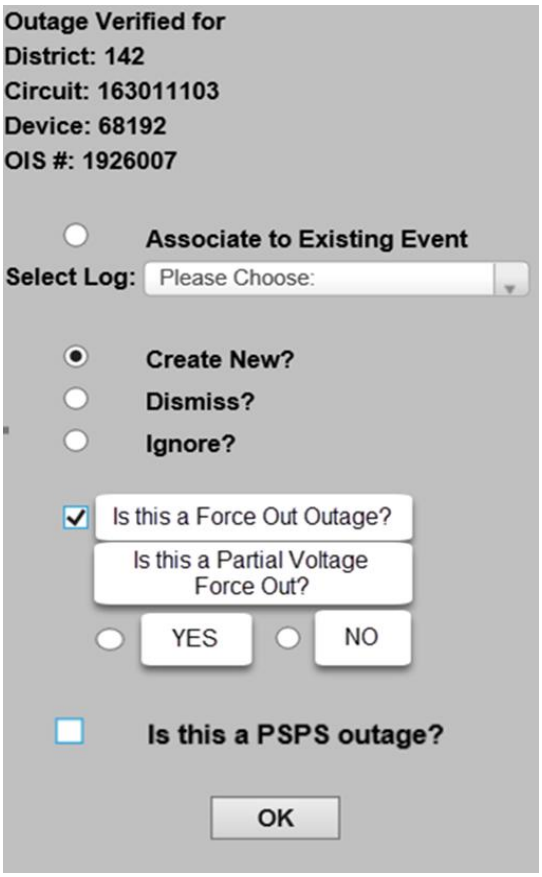

Figure 10. Partial Voltage Outage Action Panel YES/NO Radio Buttons

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6.4 Patrol and Restoration Process

Figure 11. Example of Non-Operable Device

1. CONDUCT a patrol starting load side of where the partial voltage outage calls clearly start, back to the desired de-energization point (SEE Figure 11 above).

2. IF obvious trouble is found (e.g., car-pole, tree, branch through the line) AND is determined to be the initial case of the outage given the gathered information,

   THEN PATROL the de-energized overhead line back to the desired de-energization point, source-side of all customers involved in the partial voltage outage.

   a. PATROL from the found trouble to the 3-phase gang-operated SCADA device that was forced opened.

3. IF trouble with no cause is found (e.g., wire down, burned open jumper),

   THEN PATROL the de-energized overhead line back to the desired de-energization point, source side of all customers involved in the partial voltage outage.

   a. PATROL from the found trouble to the 3-phase gang-operated SCADA device that was forced opened.

6.4 (continued)

b. IF partial voltage indicators still exist,

THEN TROUBLESHOOT for the cause.

4. Electric Dispatch MUST DISPATCH immediately for all partial voltage outages AND HAVE personnel onsite within 60 minutes.

7 Planned Switching Involving EPSS Devices

7.1 Planned switching that renders an EPSS circuit(s) abnormal for less than 48 hours **does not** require an EPSS protection review by a DOE under the following conditions:

1. IF the abnormal switching results in a non-EPSS capable device(s) feeding into a fire area,

THEN ENABLE HLT on the upstream device, if capable.

2. IF the abnormal switching results in an EPSS capable device(s) feeding into a fire area,

THEN ENABLE EPSS on the upstream device.

7.2 Planned switching that renders an EPSS circuit(s) abnormal for 48 hours or more requires review by a DOE following the predetermined engineering review process.

1. Engineering support DETERMINES the appropriate switching/device setups to meet EPSS protection requirements.

7.3 Before looping or paralleling through EPSS devices, PLACE the device in a non-EPSS profile.

1. PLACE the device back in its EPSS profile immediately after the loop or parallel is separated, **unless** the abnormal switching results in an EPSS device(s) protecting downstream assets **not** requiring EPSS protection.

8 Disable EPSS Process

8.1 The DO RECEIVES a list of circuits with EPSS devices to be disabled.

1. REFER to the EPSS Operator Playbooks website to verify devices' desired EPSS status.

NOTE

Disabling EPSS can include placing substation bank high-side automatic protective devices on AUTO. This should only happen if the EPSS season is over.

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8.2 The DO DISABLES EPSS on all prescribed devices.

1. REMOVE tag and DISABLE EPSS.
2. CUT IN reclose relay.
3. ENABLE FLISR at the circuit level AND REMOVE the Caution tag on all EPSS disabled circuits.
4. DISPATCH field personnel immediately to all devices on the provided list without SCADA or with communication failure to disable EPSS.

8.3 Once EPSS is disabled on all devices of a prescribed circuit, the DO COMPLETES the following actions (SEE Figure 1 on Page 4):

1. In ILIS, NAVIGATE to the DOD, AND SELECT the EPSS tab/page.
2. SELECT the affected circuit from the circuit drop-down menu.
3. UNCHECK the box next to the listed device that has had EPSS disabled.
   a. IF EPSS is disabled on the entire circuit,

      THEN CLICK the **Disable All Devices** button to remove the check marks from all the boxes.
4. LEAVE the auto-populated statement in the Tag Comments field.

NOTE
The EPSS Comments field is mandatory.

5. In the EPSS Comments field, ENTER the following:
   a. Text about EPSS being disabled.
   b. IF the circuit has Yukon Feeder Automation (YFA),

      THEN RECORD the status.
   c. IF EPSS has been disabled on the entire circuit,

      THEN ENABLE YFA.
6. CLICK **Save**.

8.4 In ILIS, a Routine Log entry is automatically created with updated EPSS entry information.

8.5 In DMS, the EPSS tag is automatically removed from every device listed under the circuit selected on the ILIS EPSS page.

1. REMOVE any EPSS tags from DMS that have been added to devices manually.

9 Disabling EPSS On All Prescribed Automatic High Devices

1. The DO RECEIVES email with all high-side devices (e.g., circuit breakers, circuit switchers) to be disabled for the season.

2. PLACE high-side devices on auto to disable EPSS.

   a. IF the device is RT SCADA operable,

      THEN REMOVE the Caution tag from the device in RT SCADA AND REMOVE the EPSS tag from the device in DMS.

   b. IF the device is ADMS SCADA operable,

      THEN REMOVE EPSS tag in ADMS AND VERIFY that ADMS automatically removes the tag on that device in DMS.

   c. IF the device is not capable of remote operation,

      THEN DISPATCH personnel to the device in the substation to place the device on AUTO AND REMOVE the Caution tag as soon as possible.

      (1) Once the field reports the device is on AUTO AND the Caution tag is removed, REMOVE the EPSS tag from the device in DMS.

3. RECORD all actions taken in ILIS Routing Log.

10 General Device EPSS Settings

10.1 LR Settings

1. Form 6 Rev 30 Alternate profile #3.

2. Form 6 Rev 28 Alternate profile #1.

3. Beckwith Recloser Mode #3.

10.2 FuseSaver Settings

1. Fast Single Non-Reclose

Enhanced Powerline Safety Settings (EPSS) and Patrol Process

10.3 Feeder CB Settings

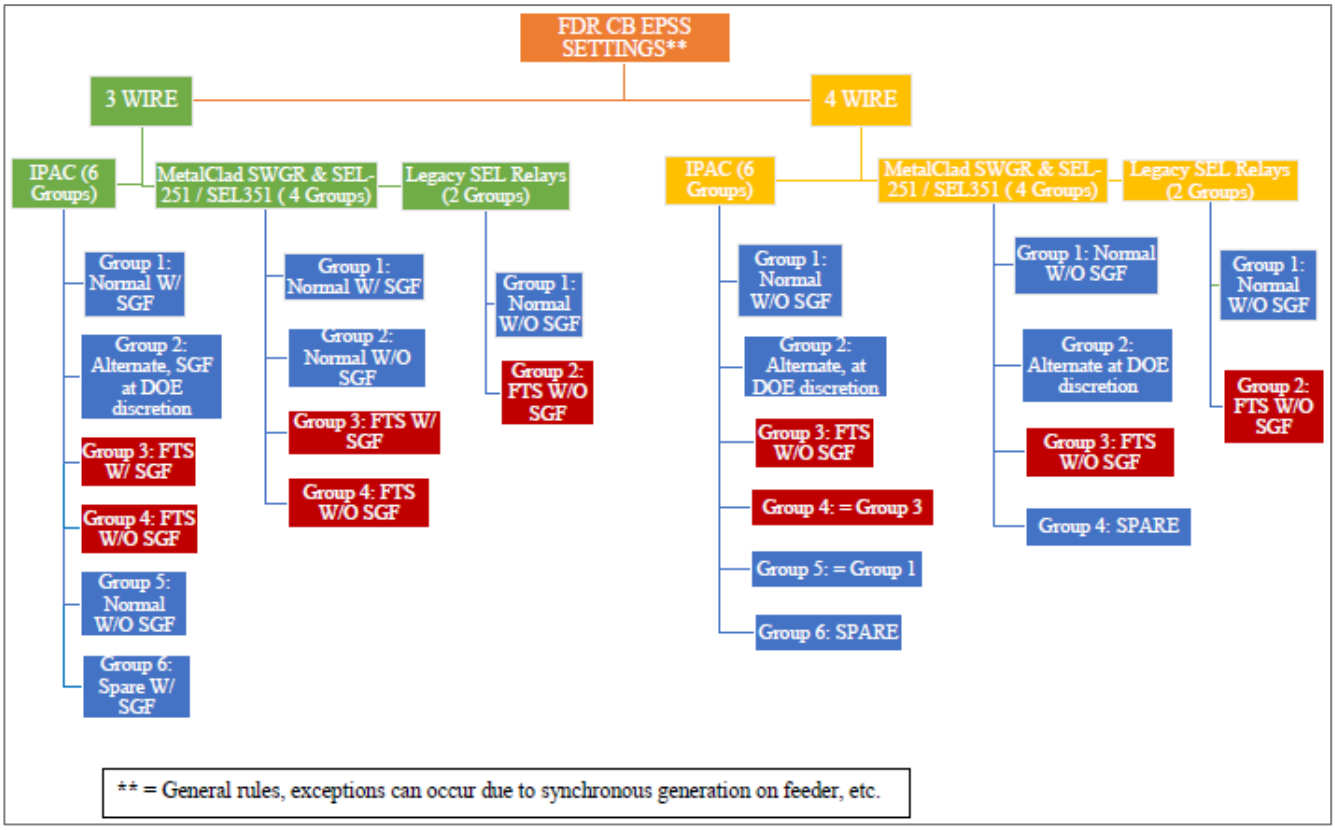

Figure 12. Generally Accepted Feeder CB EPSS Settings

END of Instructions

Enhanced Powerline Safety Settings (EPSS) and Patrol Process

DEFINITIONS

Customer owned lines (COLs): Distribution customers metered at primary voltage. COLs are third-party owned and operated power lines interconnected to PG&E's system. Customer owned facilities are third-party facilities on the customer's side of the meter. Customer owner(s) are responsible for maintenance and operation of their line and equipment.

High Fire Risk Area (HFRA): Fire area that includes Tier 2 and Tier 3 of the CPUC High Fire Threat District (HFTD) and other areas that PG&E has evaluated and determined to have an elevated fire risk.

Privately owned lines (POLs): POLs are third-party owned and operated power lines interconnected to PG&E's system. PG&E relies on these "Joint Use" POLs to deliver electricity to PG&E's revenue meters at customer premises. PG&E meters are located at the ends of the POL where the customer premises interconnect. POL owner(s) are responsible for the maintenance and operation of the line. For more information on POL see Utility Procedure TD-2015P-02, "Procedure for Privately Owned Lines (POLS)."

IMPLEMENTATION RESPONSIBILITIES

Electric Transmission and Distribution superintendents, managers, and supervisors are responsible for ensuring work personnel are aware of and comply with this procedure.

Work personnel in the operation of the electric grid transmission, distribution systems, and associated PG&E equipment must comply with the instructions in this procedure.

Work personnel are responsible for executing only the work for which they have been trained. When necessary, personnel must notify their supervisor of any additional training, equipment, or resources they need to perform their assigned duties and/or job assignments.

GOVERNING DOCUMENT

Utility Standard TD-2700S, "Electric Distribution General Operating, Clearance, and Non-Test Instructions"

COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

Electric Rule 2, "Description of Service"

Information and Records Management:

PG&E Data, Information, and Records are company assets that must be traceable, verifiable, accurate, and complete and can be retrieved upon request. Functional Areas are responsible for complying with the Information & Records Governance Policy, Standards, and the Information and Records Retention Schedule. Refer to GOV-7101S, "Enterprise Records and Information Management Standard," for further guidance or contact Information & Records Governance at Information&RecordsGovernance@pge.com.

Enhanced Powerline Safety Settings (EPSS) and Patrol Process

REFERENCE DOCUMENTS

Developmental References:

Utility Procedures:

- TD-1470P-01, “Enhanced Powerline Safety Settings (EPSS) Enablement Criteria”
  - Attachment 1, “Application Guide Device Profile Settings"
- TD-2700P-03, “Clearances and Non-Tests”
- TD-2700P-04, “Processing Applications for Work and Switching Logs”
- TD-2700P-05, "Operating Procedures for Fault Location, Isolation & Service Restoration (FLISR)"
- TD-2700P-07, “Tags”
  - Attachment 1, “Graphics”
- TD-2700P-11, “Testing and Sectionalizing Distribution Equipment”
- TD-2700P-20, “Distribution Switching Requiring Engineer Review”

Utility Standards:

- S1418, “Notice to Customers, Planned Electric Service Interruption”
- TD-1470S, "Enhanced Powerline Safety Settings (EPSS)"

Supplemental References:

Code of Safe Practices

Utility Standards:

- SAFE-1001S, “PG&E Injury & Illness Prevention Plan (IIPP)”
- EMER-4102S, “Preventing and Mitigating Fires While Performing PG&E Work”

APPENDICES

NA

ATTACHMENTS

Attachment 1, “Using Navigator Fault Indicators to Restore an EPSS Outage"

Enhanced Powerline Safety Settings (EPSS) and Patrol Process

DOCUMENT RECISION

This utility procedure cancels and supersedes Utility Procedure TD-2700P-26, “Enhanced Powerline Safety Settings (EPSS) and Patrol Process,” Rev. 2, dated 11/02/2023.

DOCUMENT APPROVER

[redacted], Distribution Control Center Director, Electric Operations

DOCUMENT OWNER

[redacted], Distribution Control Center Director, Electric Operations

DOCUMENT CONTACT

[redacted], Business Process Supervisor, Electric Operations

[redacted] Distribution Operations Specialist, Expert

[redacted], Distribution Operations Specialist, Expert

REVISION NOTES

Where?	What Changed?
Subsection 2.1.1	Added: “USE EPSS Playbooks website for whether circuits and devices should have EPSS enabled.”
Subsection 2.2.5	Added note about high-side autos being disabled for EPSS.
Subsection 5.4.1.b	Added, “except for Navigator LM’s (SEE Figure 8. Navigator LM Fault Indicator for image of Navigator LM).”
Figure 8	Added image of Navigator LMs.
Table 1	Updated with Navigator LM information.
Subsection 5.12	Added this section.
Subsection 5.13	Added this section.
Subsection 5.14	Added this section.
Subsection 6.3	Added this section.
Figure 10	Added this section.
Subsection 8.1.1	Added this section and the associated note.