System Emergencies and Responding to Alarms

Attachment 2, Transmission Line Switching, Non-Reclose, and EPSS

1 Introduction

1.1 This attachment describes Electric Transmission Grid Control Center (GCC) wildfire operational mitigation activities for **Enhanced Powerline Safety Settings (EPSS)**, **disabling automatic reclosing**, and the requirements for **transmission line switching** in any Tier 2/3 High Fire Threat District (HFTD) and High Fire Risk Area (HFRA).

1.2 These wildfire operational mitigation activities, including patrols, are dependent on the utility Fire Potential Index (FPI) rating (R1, R2, R3, R4, R5, and R5-Plus).

2 Electric Transmission Grid Control Center EPSS and Non-Reclose

2.1 The GCC CONDUCTS an annual review of transmission lines (and associated Supervisory Control and Data Acquisition [SCADA]and non-SCADA devices) that cross into Fire Index Areas (FIAs), to enable EPSS and disable reclosing on lines and devices when the criteria are met. SEE Utility Procedure TD-1470P-03, "Wildfire Risk Seasonal Transition Process – Electric System Operations."

1. ENABLE EPSS by using protection settings to ensure public safety by allowing PG&E to de-energize powerlines quickly and automatically.

   a. REFER to the following documents:

   - Utility Standard TD-1470S, “Enhanced Powerline Safety Settings (EPSS)”
   - Utility Procedure TD-1470P-01, “Enhanced Powerline Safety Settings (EPSS) Enablement Criteria”
   - Utility Procedure TD-1470P-03, “Wildfire Risk Seasonal Transition Process – Electric System Operations”

2. DISABLE automatic reclosing on 230 kilovolt (kV) lines to prevent testing of powerlines that traverse HFRA or Tier 2/3 HFTD areas and when EPSS settings are enabled on lines 115 kV and below.

3. DISABLE automatic reclosing on lines 115 kV and below in protection zones to prevent testing of powerlines that traverse HFRAs or Tier 2/3 HFTDs for FPI ratings of R2 and above, AND FOLLOW patrol and energize/test requirements.

3 Patrolling and Restoration Activities

3.1 IF a transmission level outage occurs in HFRA or Tier 2/3 HFTD area,

THEN BEGIN patrol, based on the ability to sectionalize and restore power to as many customers as possible.

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3.2 PATROL AND RESTORE the transmission line, or section of line, based on the following FPI ratings:

- **R1 rating:** FOLLOW normal sectionalizing and testing protocol, in accordance with Utility Procedure TD-1400P-07, "System Emergencies and Responding to Alarms," Section 6, “Testing and Sectionalizing Equipment and Lines.”
- **R2 and R3 rating:** PATROL the entire line before testing unless fault-targeting devices can be used to evaluate, isolate, and restore.
- **R4, R5 and R5-Plus ratings: DO NOT TEST** facilities until the entire line, or line section, is patrolled and all found trouble (e.g., fault condition) is isolated.

3.3 PATROL transmission lines involved in scheduled outages before energizing when all of the following conditions are met:

- A 230 kV transmission line, or below, is under a scheduled outage.
- The line traverses a tier 2 or tier 3 HFTD or HFRA.
- The line or line segment is de-energized for more than 24 hours from the path interruption time.
- The asset traverses an area with a FPI rating **greater than or equal to R4** at the time of restoration.

3.4 For transmission-level EPSS outages affecting distribution fused transformer banks, PERFORM the following steps:

1. IF a System Protection (SP) engineer determines that the fault could be load side of the high-side fuses of a distribution transformer bank,

   THEN NOTIFY the responsible distribution operator (DO) to proceed with bank inspections. SEE Utility Procedure TD-2700P-26, “Enhanced Power Line Safety Settings (EPSS) and Patrol Process,” Subsection 5.13, “Transmission Level EPSS Outages Affective Distribution Fused Transformer Banks.”

   a. The GCC DOES NOT TEST the transmission asset until released to do so by the DCC, or a cause is found and all personnel are in the clear.

2. IF an SP engineer determines the fault is not load side of the high side fuses of a distribution transformer bank,

   THEN distribution bank inspections are not required.

3.5 IF current FPI ratings change during patrol and restoration activities,

THEN the operator TAKES the appropriate action to align with the new or revised FPI rating.

NOTE
To minimize the possibility of high inrush current, which may prevent restoration, RETURN the EPSS settings to normal before energizing.

4 Electric Transmission Line Switching

4.1 OPERATE line switches on 60 kV, 70 kV, and 115 kV lines in Tier 2/3 HFTD and HFRA at all FPI ratings **in a de-energized state** for scheduled, forced, and emergency work (including line relay events).

1. For FPI ratings of R2 and above, field personnel (e.g., qualified electrical workers, troublemen, etc.) must BE PRESENT at the device before re-energizing the line device.

2. Before re-energizing any portion of the switch, field personnel must HAVE appropriate fire suppression tools (i.e., 5-gallon backpack pump-type fire extinguisher and round point shovel) AND BE PREPARED to extinguish an unexpected ignition that may occur.

3. Before re-energizing the line, field personnel CONFIRM the following:

   - The device operates properly in the de-energized state and is in the desired position.
   - Associated switch equipment (e.g., device components, jumpers, arc whips, and interlocks) is in the proper position with adequate clearance from grounded objects.
   - The device is free from ignition risk and safe to energize.

4.2 In certain situations, it may be necessary to operate a line switch in an energized state.

1. IF a line switch is operated in an energized state,

   THEN the following criteria must be met:

   a. A Transmission Grid Control Operations supervisor REVIEWS AND APPROVES the proposed energized switching operation.

   b. At FPI ratings of **R2 and above**, field personnel must BE PRESENT AND POSITIONED at the device during operation.

   c. Field personnel CONFIRM the following:

      - The device operates properly and is in the desired position.

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4.2 (continued)

- Associated switch equipment is in the proper position with adequate clearance from grounded objects.
- At FPI ratings of **R3 and above**, a Safety Infrastructure Protection Team (SIPT) crew must BE PRESENT AND POSITIONED at the device during operation, along with personnel.
- Field personnel and the SIPT crew must HAVE appropriate fire suppression tools set up at the line switches location AND BE PREPARED to extinguish an unexpected ignition should one occur.

4.3 Table 1 below outlines requirements for field personnel and SIPT crew during **de-energized** switching operations of 60-kV, 70-kV, and 115-kV transmission line (T-Line) switches in Tier 2/3 HFTD and HFRA.

Table 1. Personnel Requirements – De-Energized Switching Operations

FPI Rating	Qualified Electrical Worker	SIPT
R1	NA	NA
R2 and above	Yes	NA

4.4 Table 2 below outlines requirements for field personnel and SIPT crew during **energized** switching operations of 60-kV, 70-kV, and 115-kV T-Line switches in Tier 2/3 HFTD and HFRA.

Table 2. Personnel Requirements – Energized Switching Operations

FPI Rating	Qualified Electrical Worker	SIPT
R1	NA	NA
R2	Yes	NA
R3 and above	Yes	Yes

REVISION NOTES

Where?	What Changed?
Subsection 3.3	Incorporated content from obsoleted Bulletin TD-1400P-07-Att02-B001.
Subsection 3.4	Added content for transmission level EPSS outages affecting distribution fused transformer bans.
Subsection 3.5	Previously Subsection 3.3: Removed note referencing Utility Standard TD-1464S and TD-1464S - Attachment 1, as it no longer applies.

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Subsection 4.4	Revised third row of “FPI Rating” column in Table 2 from “R4 and above” to “R3 and above.”