Fire Index Patrol and Non-Reclose Procedure

SUMMARY

This document describes the procedure for disabling automatic reclosing in protection zones that intersect High Fire Risk Areas (HFRAs) and includes patrolling and energizing/testing requirements for Fire Index Area(s) (FIA) during the utility fire risk season. This document describes when patrol is required during conditions R-4 and above. This process excludes Public Safety Power Shutoff (PSPS), Local Electrical Emergency Plan (LEEP) and Electrical Emergency Plan (EEP) events.

Level of Use: Informational Use

TARGET AUDIENCE

This procedure applies to electric transmission and distribution control center employees.

SAFETY

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

BEFORE YOU START

Read and comply with Utility Standard TD-1464S, Preventing and Mitigating Fires While Performing PG&E Work.

Perform operating, switching and restoration procedures safely and in accordance with the Company's Utility Standard SAFE-1001S, Safety and Health Program Standard and the Code of Safe Practices.

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PROCEDURE STEPS

1 General Information

1.1 Reclosing devices for transmission 115kV and below and all distribution lines will be disabled during the determined utility fire risk season for transmission lines and distribution protection zones in Tier 2 or Tier 3 or High Fire Risk Area (HFRA) within designated Fire Index Areas (FIAs).

1.2 Timing for disabling/enabling of reclosing devices is based on the condition of fuels. At decision-making meetings before summer and winter preparedness, Meteorology, Hazards Awareness and Warning Center (HAWC), and Safety Protection Team (SIPT) make recommendations. Based on these recommendations, the VP, PSPS Operations & Execution makes a recommendation to the SVP, Wildfire Risk & Chief Risk Officer. The SVP then makes decision which is recorded and then communicated to impacted departments. Multiple decision-making meetings may be necessary to make decisions for all affected regions of the PG&E service territory. Decisions are made for each affected FIA and execution may be staggered. See Attachment 1 for decision-making meeting requirements, agenda, template for record, and archiving.

1.3 During non-fire season, operators are required to enable/disable reclosing devices based on daily FIA if risk conditions are identified.

2 Electric Distribution Control Center Operator Non-Reclose and Patrol Procedure

2.1 Electric Distribution Asset Planning PROVIDES a list of devices (SCADA and non-SCADA) in FIAs that require reclosing disabled prior to the utility fire risk season.

2.2 The distribution operator (DO) PERFORMS the following steps:

1. DISABLE Fault Location Isolation and Service Restoration (FLISR) devices at the circuit level that feed into Tier 2 or Tier 3 or High Fire Risk Area (HFRA) within designated FIAs.

2. REVIEW and take appropriate ACTION for active FPI ratings of the FIA(s) within their jurisdiction.

3. DISABLE reclosing on devices where an abnormal circuit configuration causes protection zone(s) to intersect Tier 2 or Tier 3 or High Fire Risk Area (HFRA) within designated FIAs**.**

4. PLACE a Fire Mitigation (FM) Tag in the Distribution Management System (DMS) next to the corresponding devices and DOCUMENT switching instructions per Utility Standard TD-2700S, “Electric Distribution General Operating, Clearance, and Non-Test Instructions” and Utility Procedure TD-2700P-04, "Processing Applications for Work and Switching Logs".

2.2 (continued)

5. USE the check box on the ILIS Event Outage report to indicate a device associated with an outage that has reclosing disabled due to fire mitigation.

2.3 Patrolling and Testing/Energizing requirements for Automatic Protective Devices for active FPI ratings of “R4” and “R5”.

The DO will PERFORM the following patrol and testing/energizing requirements for automatic protective devices (i.e.: line recloser, sectionalizer, TripSaver, FuseSaver, or circuit breaker) for active FPI ratings “R4” and “R5”.

1. IF “R4” or “R5” FPI ratings are active and a device tests to lockout or open/de-energized,

   THEN the overhead (OH) line in the involved protection zone must be PATROLLED in its entirety and all found trouble ISOLATED or CLEARED. regardless of found fault location. (A protection zone is isolated by circuit breaker, Line Recloser, TripSaver, FuseSaver, or Fuse as defined below and shown in Figure 1).

   a. In the event of multiple LRs operating, possibly due to miscoordination, PATROL the entire protection zone from the most upstream targeted or locked out protective device and beyond any additional targeted LRs. If fault current flowed through the OH line, it must be patrolled.

CAUTION

Patrol of the protection zone cannot be reduced by the use of

fault indicators or line sensors.

Protection Zone (Distribution): The zone between two protective devices, i.e., starts at the device that relayed and/or locked out or blown (such as a CB or LR or TripSaver or Fuse) and continues downstream until ALL protective devices are reached, which could include multiple branches of the circuit. See sample of a protection zone in Figure 1.

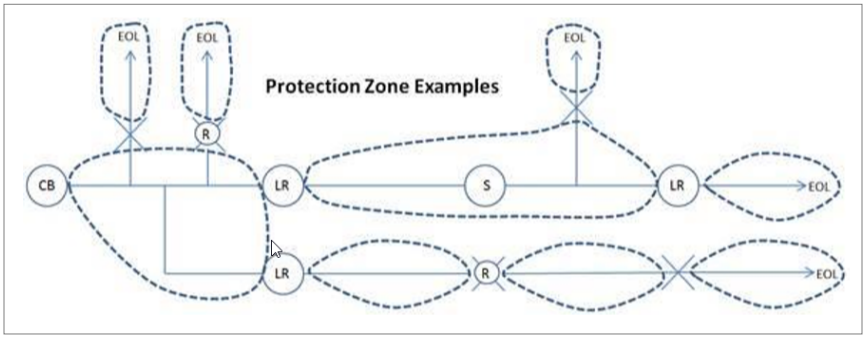

Figure 1. Sample Protection Zone

2.3.1 (continued)

2. IF the line is forced out with no known trouble identified,

   THEN use targeting devices and other tools to IDENTIFY the patrol area and PERFORM the following steps:

   a. PATROL and STEP RESTORE until all found trouble is isolated or cleared.

   b. Once a trouble location is found and isolated or cleared, the OH line beyond the trouble location must be PATROLLED in its entirety to the next protective device.

   c. If no trouble is found, PATROL of the entire OH line may be required.

3. IF the line is forced out due to known trouble,

   THEN RE-ENERGIZE after trouble is safely isolated or cleared.

4. IF a device trips by sensitive ground fault (SGF) target and has no other targets,

   THEN REFER to Utility Procedure TD-2700P-11, "Testing and Sectionalizing Distribution Equipment", section 9 and PERFORM a complete patrol in the de-energized section.

2.4 Patrolling and Testing/Energizing requirements for Automatic Protective Devices for active FPI ratings of “R5-Plus”

1. IF the FPI rating is “R5-Plus,”

   THEN a full patrol of the entire OH de-energized zone MUST BE completed. (i.e. includes fused radial/tap lines).

   a. It is permissible to open OH sectionalizing devices and RESTORE sections of the circuit that have been fully patrolled (step restoration) and are in known good condition.

3 Electric Transmission Grid Control Center Operator Non-Reclose and Patrol Procedure

3.1 For Transmission lines which cross into FIAs, Grid Control Center (GCC) will REVIEW annually prior to determined utility fire risk season a list of devices (SCADA and non-SCADA) to have reclosing disabled for summer preparedness as determined by decision-making meetings. See Attachment 1 for more information on meetings.

1. IF a circuit is abnormal,

   THEN all affected devices need to have reclosing accounted for where a line passes through Tier 2 or Tier 3 or High Fire Risk Area (HFRA) within designated FIAs.

3.2 For FPI conditions “R3” and below, facilities MAY be tested in accordance Utility Procedure TD-1400P-07, “System Emergencies and Responding Alarms”, Section 6.

3.3 **DO NOT** TEST facilities with a current FPI Rating of “R4” until the following actions have been taken:

1. The entire line must be PATROLLED unless fault targeting devices are installed and can be used.

   a. IF fault targeting devices can be USED,

      THEN EVALUATE targets, ISOLATE and RESTORE customers.

   b. IF fault targeting devices are not available,

      THEN DO NOT ENERGIZE any portion of line that has not been patrolled.

3.4 BEGIN patrol based on ability to SECTIONALIZE and RESTORE the largest number of customers, if possible.

3.5 **DO NOT** TEST facilities with a current FPI rating of “R5” or above until 100% of the de-energized equipment has been PATROLLED and all found trouble was CLEARED.

3.6 230kV line reclosing will remain enabled, unless the line experiences a momentary outage AND the line passes through a Fire Index that is rated at FPI “R4” or “R5” on the day the outage occurs. If this occurs, PERFORM the following steps:

1. The operator must DISABLE reclosing via SCADA to prevent additional testing.

2. ENSURE that 230kV line remains reclose-disabled until the line has been patrolled.

3. LOG the affected devices and Fire Indexes using the Transmission Operations Tracking and Logging (TOTL). SEE sample of Logging System in Figure 2 on Page 6.

   a. USE the fire attribute check box – this action reveals the Fire Details button.

   b. CAPTURE and SAVE Fire Index details.

   c. SAVE logging information so that it will be present in the Daily Chronological Log.

3.7 IF the FPI Rating is “R5-Plus,”

THEN CUT OUT reclosing on all 230kV lines in the affected FIA.

3.8 IF current FPI Ratings change previous FPI ratings,

THEN the operator must TAKE the appropriate action according to this procedure.

3.8 (continued)

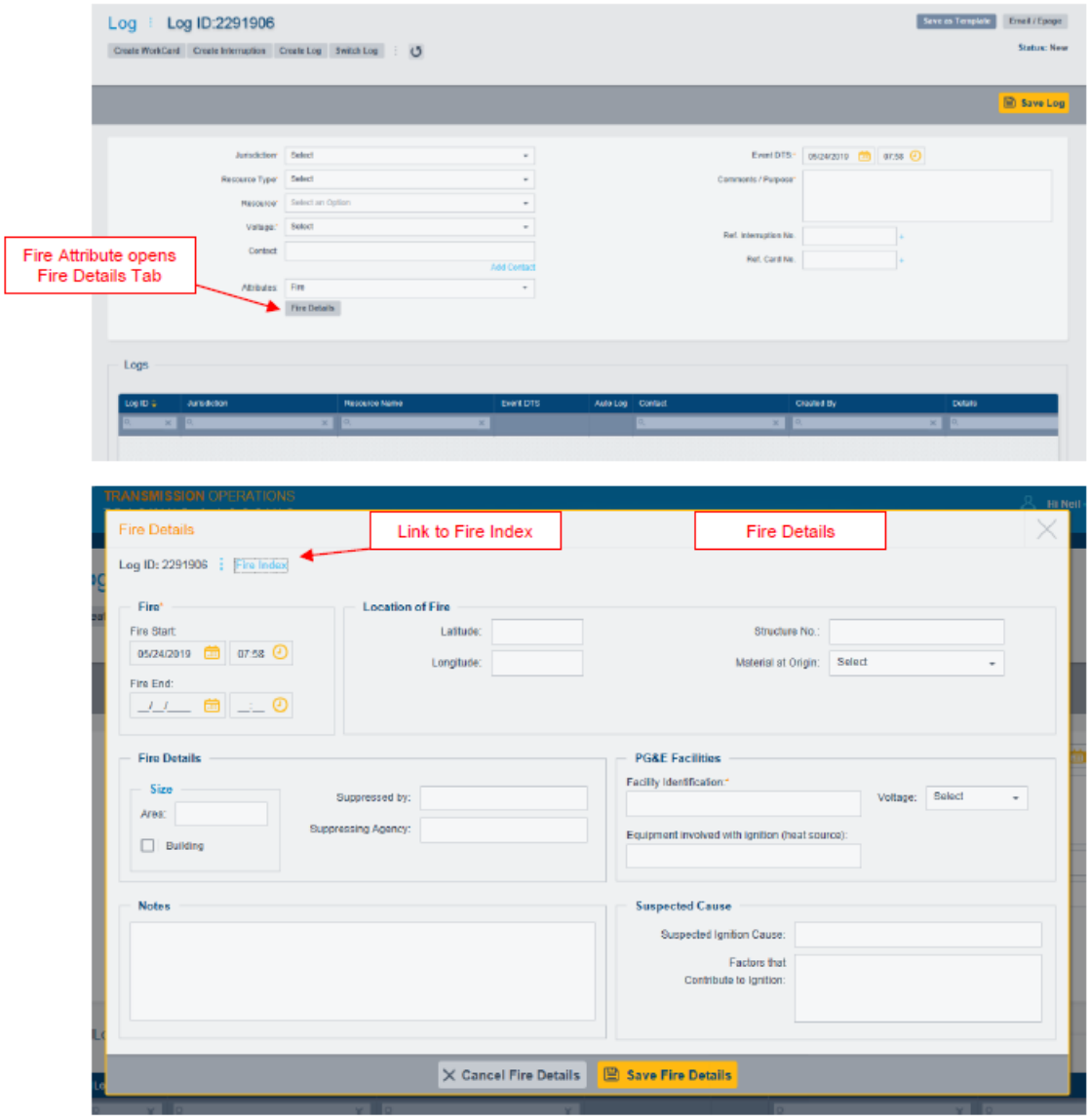

Figure 2.: Example of logging system

END of Instructions

Fire Index Patrol and Non-Reclose Procedure

DEFINITIONS

Fire Index Area (FIA): A geographical area over which fire danger determinations are produced, which will determine the proper mitigations required as laid out in Utility Standard TD-1464S and this Procedure.

High Fire Risk Area (HFRA): The High Fire Risk Area includes Tier 2 and Tier 3 of the CPUC High Fire Threat District (HFTD) with incremental additional areas evaluated by PG&E to have elevated fire risk.

High Fire Threat District (HFTD): CPUC-approved delineated areas, where there is an elevated or extreme risk (including likelihood and potential impacts on people and property) from utility associated wildfires. The districts are designated under three levels:

- **Zone 1:** High Hazard Zones on the U.S. Forest Service-California Department of Forestry and Fire Protection (CAL FIRE) joint map of Tree Mortality High Hazard Zones
- **Tier 2:** Elevated risk for utility-associated wildfires
- **Tier 3:** Extreme risk for utility associated wildfires

IMPLEMENTATION RESPONSIBILITIES

The directors of electric grid transmission and distribution control center operations are responsible for ensuring their personnel are aware of and comply with this procedure.

Personnel involved in the operation of the electric grid transmission and distribution systems, and associated Company equipment, must comply with the instructions in this procedure.

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-1464S, "Preventing and Mitigating Fires While Performing PG&E Work"

COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

Records and Information Management: PG&E records are company assets that must be managed with integrity to ensure authenticity and reliability. Each Line of Business (LOB) must manage Records and Information in accordance with the Enterprise Records and Information (ERIM) Policy, Standards and Enterprise Records Retention Schedule (ERRS). Each Line of Business (LOB) is also responsible for ensuring records are complete, accurate, verifiable and can be retrieved upon request. Refer to GOV-7101S, "Enterprise Records and Information Management Standard" for further records management guidance or contact ERIM at Enterprise_RIM@pge.com."

Fire Index Patrol and Non-Reclose Procedure

REFERENCE DOCUMENTS

Developmental References:

NA

Supplemental References:

Code of Safe Practices

Power Line Fire Prevention Field Guide

Utility Standard:

TD-2700S, “Electric Distribution General Operating, Clearance, and Non-Test Instructions”

Utility Procedures:

TD-1400P-07, “System Emergencies and Responding Alarms”

TD-2700P-04, "Processing Applications for Work and Switching Logs"

TD-2700P-11, "Testing and Sectionalizing Distribution Equipment"

APPENDICES

NA

ATTACHMENTS

TD-1464P-01 Attachment 1, Recloser Auto Disablement / Re-enablement Decision-Making Meeting

DOCUMENT RECISION

NA

DOCUMENT APPROVER

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Fire Index Patrol and Non-Reclose Procedure

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REVISION NOTES

Where?	What Changed?
Section 1.1. and same verbiage aligned throughout the document	Revised - for transmission lines and distribution protection zones in Tier 2 or Tier 3 or High Fire Risk Area (HFRA) within designated Fire Index Areas (FIAs).
Section 1.2	Revised verbiage and added link to new Attachment 1 on decision-making meetings.
Section 1.3	Added new text with guidance what to do if devices have not been enabled/disabled for the fire season.
Section 2.2.2	Replaced Area of Responsibility (AOR) with “jurisdiction”
Section 2.3.1	Added clarification pointing to definition of protection zone. Removed from 2.3.1.former lettered subsections “a”, ”b”, and “d” about line closers, fault indicators, and multifunctional devises. Added “Caution” - Patrol of the protection zone cannot be reduced by the use of fault indicators or line sensors. Added definition for protection zone and image of sample protection zone.(moved from definition section)
Section 3.1	Corrected to all “affected” devices from formerly “effected”.
Section 3.3	Added “current” to FPI Rating of “R4”.
Section 3.5	Added of “current” to FPI rating of “R5” or above.
Section 3.6	Added to FPI “R4” or “R5” of “on the day the outage occurs.”
Definitions	Added of Fire Index Area (FIA) and High Fire Risk Area (HFRA). Removed definition for protection zone and image of sample protection zone. (now moved to Section 2.3.1)