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## GRID OPERATIONS

# OPERATING PROCEDURE No. PCC-200

## Operating Transmission and Distribution Assets during the Fire Season

Approved: Brent Roholt Date: February 27, 2019  
Director, Grid Operations

### 1. Purpose:

The purpose of this procedure is to provide proactive and real time guidelines for operating transmission (>100 kilovolts (kV)), sub-transmission (99 – 34.5 kV), and distribution (<34.5 kV) assets during a time period of declared “fire season”, or “red flag warnings.”

### 2. Background:

This Operating Procedure No. PCC-200 (Procedure) implements specific procedures for System Operations during the applicable fire season for each of PacifiCorp’s operating districts. This Procedure is designed to reduce the risk of a fire starting during fire season as a result of a fault on PacifiCorp’s transmission and distribution systems.

As set forth in detail below, this Procedure directs System Operations to limit the use of line testing and of automatic reclosing equipment in certain, defined circumstances during fire season. In addition, this Procedure prescribes special restrictions on equipment located in areas subject to elevated fire risk, based on a declaration by the National Weather Service (NWS) of a “Red Flag Warning.” Special restrictions will apply only while the Red Flag Warning is in effect. Red Flag Warnings are published by the NWS based on fire weather conditions (<https://www.weather.gov/wrh/>). As explained by the NWS, a Red Flag Warning means that critical fire weather conditions are either occurring or are imminent.

### 3. Red Flag Warnings:

If the NWS publishes a “Red Flag Warning” in any of our service territory, the steps in this procedure shall be followed regardless of declaration of fire season.



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#### 4. Start/End of Fire Season Announcements:

This Procedure shall be in effect with respect to each operating district starting with the beginning of the fire season for such district. The start of fire season for each operating district shall occur on the date on which the Vice President of System Operations announces the start of fire season for an operating district via e-mail to the Grid Operations Shift Supervisors. Before making any such announcement, the Vice President of System Operations will solicit input from the Vice Presidents of T&D Operations from each division and from personnel in Emergency Management from each division, who monitor publications by the NWS and other governmental agencies. This announcement is to be made separately for each operating district because of the variance in local conditions and the large geographic expanse of PacifiCorp's service territory.

Likewise, the end of fire season in each operating district will occur on the date on which the Vice President of System Operations announces the end of fire season for the operating district via e-mail to the Grid Operations Shift Supervisors. Prior to making any such announcement, the Vice President of System Operations will solicit input from the Vice Presidents of T&D Operations from each division and from personnel in Emergency Management from each division.

As soon as practicable after the start of fire season is announced with respect to any particular operating district, System Operations is to follow the instructions in Sections 4 through 8 of these Procedures for transmission and distribution assets located in such district until the end of the operating district's fire season is announced as described above.

#### 5. Procedure – Identifying Areas and Assets Subject to Red Flag Warnings

- a) **Shift Start.** At the beginning of each shift, the Grid Shift Supervisor will check for any "Red Flag Warnings" in effect within PacifiCorp's balancing authority areas.
- b) **Assess Zone of Impact & Confer with Management.** If there are any Red Flag Warnings in effect in areas in which PacifiCorp maintains transmission and/or distribution assets, the Grid Shift Supervisor promptly will utilize mapping products to identify the impacted areas and assets and will discuss the warning situation with the Grid Operations Manager or Grid Operations Director.
- c) **Report Activation of Red Flag Warning Procedures.** Any changes in the Red Flag Warning status shall be logged in the appropriate operator logs. The shift



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supervisor or associated system operator shall activate the Red Flag Warnings in EMS that are associated with the appropriate substations.

- d) **Termination of Red Flag Warnings.** If the NWS removes a Red Flag Warning during a shift, the Grid Shift Supervisor may instruct Grid Operators and Region Operators to discontinue Red Flag Warning procedures for an area or asset. Until such instruction is received, the Grid Operators and Region Operators will maintain the Red Flag Warning designation(s) for the impacted areas and assets.
- e) **Forecasted Red Flag Warnings.** If there is a new Red Flag Warning forecasted to begin during the shift, the Grid Shift Supervisor, with the assistance of personnel in Emergency Management, will continue to monitor Red Flag Warning status. If the NWS adds a Red Flag Warning during a shift, the Grid Shift Supervisor will, as soon as practicable, implement Steps (b) through (e) above with respect to the new Red Flag Warning.

**6. Procedure – Transmission (>100 kV)**

- a) **Notification to Reliability Coordinator in Event of an Imminent Fire Threat.**  
When a fire event poses an imminent threat of any transmission lines/paths/equipment greater than 100 kV, the Operator shall:
  - i. Notify the Reliability Coordinator.
  - ii. Send a message using the Regional Reliability Coordinator's messaging system for lines that are interconnected or impact a major transmission path.
  - iii. Send a message to the “\_GridOpspaging” email distribution list.

This procedure is required under Section 2.8 of Attachment 1-TOP-005-0 of NERC reliability standard TOP- 005-2a “Operational Reliability Information.” Section 2.8 requires that Reliability Coordinator be notified in the event of “severe weather, fire, or earthquake.”

**b) Removing Lines from Service Due to Imminent Fire Threat**

Fire crews when combating fires near transmission lines will often call into System Operations to have lines de-energized so that firefighting activities can be performed safely.

- i. Lines are required to be grounded and cleared in all fire related de-energization requests.



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- A. This includes requests by fire personnel and PacifiCorp personnel such as a line patrolman.
- ii. If switchman are not immediately available to clear the line, Operator will remotely open the line via SCADA controllable points.
  - A. The line will need to be cleared as soon as possible, when switchman can arrive.
- iii. Clearly communicate the line status to the field and fire crews
  - A. If the line is de-energized but not grounded and under a clearance, it needs to be made clear to the field/fire crews that the line is NOT SAFE.
  - B. Once line becomes fully under a clearance, field and fire crews should be told that line is now safe to work in close proximity.
- c) **Successful Auto-Reclosing Following Trip(s) Without a Known Cause (Line Energized)**
  - i. **Assets for Which a Red Flag Warning *IS* in Effect.** If a line for which a Red Flag Warning is in effect recloses successfully one time following a trip without a known cause, the Operator shall:
    - A. Close the remote terminal breaker as appropriate and place the line back in service.
    - B. Turn “OFF” reclosing by SCADA.
    - C. Send a message to “\_GridOpspaging” email distribution list.
    - D. Notify area management and on-call field personnel that, while under a Red Flag Warning, the line has successfully reclosed, following a trip without a known cause and that reclosing will remain “OFF” while investigation of the cause of the trip is made.

Obtain available relay information and determine what type of investigation is required. The Operator may consider available line fault information (which may include fault location, phase indication, or fault current) and, in consultation with the applicable Field Manager, review local conditions. The Operator may direct, as needed, a line patrol by on-call field personnel.
  - E. After completing investigation, turn “ON” reclosing by SCADA.



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- ii. **Assets for Which Red Flag Warning *IS NOT* in Effect.** If a line not subject to a Red Flag Warning recloses successfully one time following a trip without a known cause, the Operator will send a message to “\_GridOpspaging” email distribution list. However, if the same line recloses successfully following a trip without a known cause for a second time **within 12 hours** of the first successful reclosing event (i.e., involving a trip without a known cause) the Operator shall implement the following steps:
  - A. Close the remote terminal breaker as appropriate and place the line back in service.
  - B. Turn “OFF” reclosing by SCADA.
  - C. Send a message to “\_GridOpspaging” email distribution list.
  - D. Notify area management and on-call field personnel that, during fire season, the line has successfully reclosed, following a trip without a known cause, twice within 12 hours, and that reclosing will remain “OFF” while investigation of the cause of the trip is made. If the line trips a third time within 12 hours of the initial trip, the line shall be removed from service until a patrol has been completed.
  - E. Obtain available relay information and determine what type of investigation is required. The Operator may consider available line fault information (which may include fault location, phase indication, or fault current) and, in consultation with the applicable Field Manager, review local conditions. The Operator may direct, as needed, a line patrol by on- call field personnel.
  - F. After completing investigation, turn “ON” reclosing by SCADA.
- iii. **Lock-Out While an Investigation is Pending.** If the line trips again while reclosers are “OFF” under the scenarios described in Section 6(b)(i) or 6b)(ii) above, the Operator shall follow the procedures in Section 5(c).
- d) **Lock-Out after Auto-Reclosing (Operates as Designed).** If the line auto-recloses and locks out, implement the following steps:
  - i. Leave line out of service.
  - ii. Stabilize the system.



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- iii. Turn “OFF” reclosing by SCADA.
  - iv. Back feed or pick-up load as necessary.
  - v. Contact area management and on-call field personnel (i) to notify that the line has locked out and is out of service and (ii) to request a patrol of the line.
  - vi. Obtain available relay information and direct on-call field personnel to perform a line patrol. In determining the scope and location of the line patrol, the Operator may consider available line fault information (which may include fault location, phase indication, or fault current) and, in consultation with the applicable Field Manager, review local conditions.
  - vii. Notify the Reliability Coordinator and advise that the line will remain out of service until line patrol is complete.
  - viii. Send a message using the Regional Reliability Coordinator’s messaging system for lines that are interconnected or impact a major transmission path.
  - ix. Notify Grid Operations Staff, Region System Operations, and Operations Management by sending a message to “\_GridOpspaging” email distribution list.
  - x. After the line patrol is complete and the Operator, in consultation with the on-call field personnel, determines it is appropriate to do so, test energize the line one time.
    - A. If the test is successful, turn “ON” reclosing by SCADA and back feed or pickup load as necessary.
    - B. If the test is unsuccessful, return to Step v and request additional patrols.
- e) **Unsuccessful Auto-Reclosing (Relay Unavailable or Did Not Operate As Designed).** When the auto reclosing relay is not available or if the line did not reclose via reclosing relay, the following steps will be initiated following a trip:
- i. Turn “OFF” reclosing by SCADA.
  - ii. Test energize the line one time.



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- A. If a Red Flag Warning ***IS*** in Effect and if there is a successful test, back feed or necessary. Complete steps in section 5 (b)(i).
- B. If a Red Flag Warning ***IS NOT*** in Effect and if there is a successful test, turn “ON” reclosing by SCADA and back feed or pick-up load as necessary. If this is the second trip within 12 hours turn “OFF” reclosing by SCADA and complete remaining steps in section 6 (b)(ii).
- C. If there is an unsuccessful test, complete the steps in Section 6(c)(i) through (x) above.

**7. Procedure - Sub-Transmission (99 kV – 34.5 kV)**

The same procedures used for Transmission (>100 kV) in section 5 above shall be used for Sub-Transmission (99 kV – 34.5 kV), except that:

- a) The Reliability Coordinator does not need to be notified when dealing with a subtransmission line.
- b) The email notification lists will be “\_PCC Region Notification” or “\_SCC Region Notification” instead of “\_GridOpspacing”.

**8. Procedure – Distribution (< 34.5 kV)**

- a) Lock-Out. When a distribution circuit breaker is in a lock-out condition the Region Operator shall initiate the following steps.
  - i. Contact on-call field personnel and area management to initiate line patrol.
  - ii. On-call field personnel to inspect to the first set of main-line protective devices (field recloser, fuses, or sectionalizer).
  - iii. Disable line reclosing by SCADA or confirm disabled, if possible, until the fault operation cause is determined or the line patrol is complete.
  - iv. Notify the local Field Manager, Field Duty Supervisor or Dispatch Duty Supervisor as appropriate.
  - v. Upon notification by line personnel that the fault operation cause has been determined or the line patrol is complete and the line is clear, follow standard step restoration procedures.



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## **9. Specific Line Exemptions**

Because of unique conditions, certain lines are exempt from the procedures in this PCC-200. Normal procedures will be utilized in operating these exempt lines at all times. Exempt lines are as follows:

- Jim Bridger to Populus #1 345kV
- Jim Bridger to Populus #2 345kV
- Jim Bridger to Threemile Knoll 345kV
- Threemile Knoll to Goshen 345kV

## **10. Related procedures and Reliability Standards:**

This procedure is shared with Region System Operations, on-call field personnel and the Reliability Coordinator.

### **Related procedures:**

- PCC-600
- PCC-601-CA
- PCC-605
- PCC-800
- PacifiCorp Wildland Fire Guidelines
- Rocky Mountain Power Wildland Fire Policy
- Pacific Power Wildland Fire Preparedness and Response Playbook

### **Reliability Standards addressed in this procedure:**

- TOP-005-2a R-1 {attachment1-Top-005-0, section 2.8}

## **11. Appendixes:**

1. Transmission and Sub-Transmission – Flow Chart

## **12. Revision History:**

This procedure shall be reviewed annually and updated as needed. Version history is maintained within the PolicyTech program.





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## Appendix 1. Transmission and Sub-Transmission – Flow Chart

