June 6, 2019

Joe Loya
Manager – Transmission Compliance
Pacific Gas and Electric Company (PG&E)
245 Market St. Room 924B
San Francisco, CA 94105

SUBJECT: Substation Audit of PG&E Moss Landing

Mr. Loya:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Ivan Garcia, Chris Lee, Stephen Lee, Charles Mee, and Wilson Tsai of my staff conducted a substation audit of PG&E’s Moss Landing Division from February 25, 2019 through February 28, 2019. The audit included a review of PG&E’s procedures, records, and field inspections of its substation facilities.

During the audit, my staff identified violations of General Order 174. A copy of the audit findings itemizing the violations is enclosed. Please provide a response no later than July 8, 2019, by electronic or hard copy of all corrective actions and preventive measures taken by PG&E to correct the identified violations and prevent the recurrence of such violations.

If you have any questions concerning this audit, please contact Ivan Garcia at (916) 928-5875 or ivan.garcia@cpuc.ca.gov.

Sincerely,

[Signature]
Banu Acimis, P.E.
Program and Project Supervisor
Electric Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission

Enclosures: CPUC Audit Findings

Cc:
Lee Palmer, Deputy Director, Safety and Enforcement Division (SED), CPUC
Charlotte TerKeurst, Program Manager, ESRB, SED, CPUC
Charles Mee, Senior Utilities Engineer-Specialist, ESRB, SED, CPUC
Chris Lee, Utilities Engineer, ESRB, SED, CPUC
Ivan Garcia, Utilities Engineer, ESRB, SED, CPUC
Stephen Lee, Utilities Engineer, ESRB, SED, CPUC
AUDIT FINDINGS

I. Records Review

During the audit, ESRB staff reviewed the following standards, procedures, and records:

- Lists and locations of all PG&E substations in the Moss Landing Division
- Monthly and every-other-month substation inspection records from the last 24 months for all PG&E substations in the Moss Landing Division.
- PG&E Substation Equipment Maintenance Requirements, Utility Standard: TD-3322S with Attachments 1 through 13
- PG&E Condition Based Management Transition Process, TD-3322B-012
- PG&E Substation Inspections, TD-3322B-024
- PG&E Substation Inspection Implementation Plan, TD-3322B-026
- PG&E Substation Maintenance and Construction Manual (SM&CM), Substation Inspections Booklet
- PG&E Infrared Inspection Procedures
- PG&E Insulating Oil Testing Manual
- Lists of equipment at selected substation
- Single-line electrical diagrams for selected substations
- The last two visual inspection checklists for selected substations
- Maintenance records for selected substations; Line Corrective (LC) Notifications in the last 24 months
- Infrared Testing records for selected substations in the last 12 months
- PG&E Oil Test Samples for transformers at selected substations in the last 12 months
- Substation electrical equipment testing results
- PG&E 4kV Substation Equipment and Transferring Substation Assets to Distribution: TD-3350P-06
II. Records Violations

ESRB staff observed the following violations during the records review portion of the audit:

**GO 174, Rule 12, General** states in part:

"...Substations shall be designed, constructed and maintained for their intended use, regard being given to the conditions under which they are to be operated, to promote the safety of workers and the public and enable adequacy of service.

Design, construction and maintenance should be performed in accordance with accepted good practices for the given local conditions known at the time by those responsible."

PG&E Substation Equipment Maintenance Requirements, Utility Standard: TD-3322S, states that Priority B notifications have a basic finish date within 90 days of their creation date and have a past-due date that occurs on the first day of the second month following the month of the basic finish date. PG&E completed the following notification approximately seven months late from the past-due date:

<table>
<thead>
<tr>
<th>Order</th>
<th>Notification</th>
<th>Substation</th>
<th>Priority</th>
<th>Date Created</th>
<th>Basic Finish Date</th>
<th>Past-Due Date</th>
<th>Date Completed</th>
</tr>
</thead>
</table>
### III. Field Inspection

ESRB conducted field inspections of the following substations:

<table>
<thead>
<tr>
<th>Name of Substation</th>
<th>Approximate Address</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spence</td>
<td>535 Eckhart Road</td>
<td>Salinas</td>
</tr>
<tr>
<td>Buena Vista</td>
<td>1220 Abbott Street</td>
<td>Salinas</td>
</tr>
<tr>
<td>Salinas</td>
<td>114 Bridge Street</td>
<td>Salinas</td>
</tr>
<tr>
<td>Hatton</td>
<td>4305 Canada Court</td>
<td>Carmel</td>
</tr>
<tr>
<td>Monterey</td>
<td>498 Del Monte Center</td>
<td>Monterey</td>
</tr>
<tr>
<td>Rob Roy</td>
<td>Freedom Blvd &amp; Rob Roy Junction</td>
<td>Aptos</td>
</tr>
<tr>
<td>Ertta</td>
<td>Atkinson Lane &amp; Freedom Blvd</td>
<td>Watsonville</td>
</tr>
<tr>
<td>Watsonville</td>
<td>11 Walker Street</td>
<td>Watsonville</td>
</tr>
</tbody>
</table>
IV. Field Inspection – Undocumented Violations List

ESRB staff observed the following violations during the field inspection. PG&E did not identify and document these violations prior to the audit that ESRB discovered during the field inspection.

**GO 174, Rule 12, General** states in part:

“...Substations shall be designed, constructed and maintained for their intended use, regard being given to the conditions under which they are to be operated, to promote the safety of workers and the public and enable adequacy of service.

Design, construction and maintenance should be performed in accordance with accepted good practices for the given local conditions known at the time by those responsible.”

**Buena Vista Substation**

1. The counter on Circuit Breaker 1106 was worn out and not legible.
2. A tree’s branches overhang into the Buena Vista Substation yard and are a potential risk to PG&E’s substation electrical facilities.
Salinas Substation

- ESRB observed cracks on Transformer Bank 4's concrete foundation.
Hatton Substation

- ESRB observed atmospheric corrosion at the base of the Regulator #1 B-phase.
Ertu Substation
- Transformer #2 internal pressure gauge is illegible.
Watsonville Substation

- ESRB observed atmospheric corrosion and deterioration on one of Bank 3’s radiator fin brackets.
- ESRB observed cracks and deterioration on Circuit Breaker 2101's structural foundation.
- The signs which indicate the phases on Circuit Breaker 2101 are illegible.