



Public Utilities Commission
STATE OF CALIFORNIA

Citation Date: January 30, 2015
Citation #: ALJ 274 15-01-004
Operator ID#: 15007

Safety and Enforcement Division Investigation Report 8/27/14

**June 27, 2013 PG&E Operation, Maintenance, and Emergency Plan Audit Finding –
Notice of Violation**

**The Utility did not have two procedures as required by
Title 49, CFR §§ 192.605(b)(8) and 192.605(c)**

Utility: Pacific Gas & Electric Company (PG&E)

Utility Operating Unit: PG&E's Gas Business Unit

Subject of Report: Audit Finding – The utility did not have complete written procedures on how to determine the effectiveness and adequacy of all of its maintenance and normal operations and did not have any guidance documents that specifically and adequately address each type of abnormal operation for transmission lines.

Audit Title: General Order 112-E Audit of PG&E's Operation, Maintenance, and Emergency Program

Date of Audit: February 4-7, 2013

SED Investigator: Banu Acimis

Summary:

- 1. Title 49, CFR § 192.605 Procedural manual for operations, maintenance, and emergencies. (Probable Violation # 3 in SED's audit letter)**

(b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.

(8) Periodically reviewing the work done by operator personnel to determine the effectiveness, and adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found.

The California Public Utilities Commission's (CPUC) Safety and Enforcement Division (SED) audit letter stated the following:

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“SED noted that PG&E does not currently have a written quality control (QC) and quality assurance (QA) procedures which its personnel follow for normal operation and maintenance activities conducted to assure safe and reliable gas service. PG&E explained that it is in the process of establishing a Gas Compliance Assurance Program (GasCAP) Procedure to provide a uniform process for implementing the Gas Compliance Program for the Distribution and Transmission Divisions and Districts within the Gas Maintenance and Construction Organization.

PG&E must establish written QC and QA procedures and implement the GasCAP to ensure that all necessary normal operations, maintenance, inspections, and testing activities it performs are in accordance with the applicable rules and standards and within allowed timeframes. Moreover, PG&E must ensure that it properly trains all of its affected employees to execute the GasCAP effectively and efficiently throughout the organization.

During the audit, PG&E also explained that it reviews the root causes of past incidents and self-identified non-compliances to not only identify deficiencies but to also improve procedures as a means to prevent similar incidences from recurring. PG&E must incorporate what it has learned from these reviews into its QC and QA procedures to prevent similar non-compliances and deficiencies.

The QC activities should include supervisory field reviews in a systematic way that PG&E tracks and documents throughout all its divisions and districts to ensure the implementation of the QC activities in a uniform manner.

PG&E must also ensure that that it communicates all deficiencies, recommendations, and concerns from the field personnel and their supervisors with the groups who are in charge of verifying the effectiveness and adequacy of the procedures used in normal operations and maintenance so that the affected procedures are modified based on feedback.

PG&E must implement this program throughout the company consistently and document the outcome of QC activities and compliance of the rules. Additionally, PG&E must ensure that corrective actions are taken to improve the quality of all field activities and corresponding record keeping and that the affected programs, manuals, plans, rules, standards, and procedures are complied with.”

2. Title 49, CFR, § 192.605 Procedural manual for operations, maintenance, and emergencies. (Probable Violation # 5 in SED’s audit letter)

(c) Abnormal operation. For transmission lines, the manual required by paragraph (a) of this section must include procedures for the following to provide safety when operating design limits have been exceeded:

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(1) *Responding to, investigating, and correcting the cause of:*

- (i) *Unintended closure of valves or shutdowns;*
- (ii) *Increase or decrease in pressure or flow rate outside normal operating limits;*
- (iii) *Loss of communications;*
- (iv) *Operation of any safety device; and*
- (v) *Any other foreseeable malfunction of a component, deviation from normal operation, or personnel error, which may result in a hazard to persons or property.*

(2) *Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.*

(3) *Notifying responsible operator personnel when notice of an abnormal operation is received.*

(4) *Periodically reviewing the response of operator personnel to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found.*

SED's audit finding stated the following:

“PG&E refers to its Gas Safety and Emergency Response Plan (GERP) as addressing the requirements of abnormal operation procedures for transmission lines required by Title 49, CFR §192.605(c). As the document's title suggests, the GERP provides “detailed information about PG&E's planned response to gas transmission or distribution emergencies”, also addressing the Emergency Plan procedure requirements required by Title 49, CFR §192.615. PG&E's GERP addresses emergency response procedures; however, it does not satisfy the procedural requirements of transmission line abnormal operations per Title 49, CFR §192.605(c).

PG&E also provided the following procedures that address abnormal operations:

- *TD 1645P-02 Gas Event Reporting;*
- *TD-4436P-01 Control Room Information Management Procedure;*
- *TD-4436P-03 Alarm Management Procedure;*
- *TD-4551P-01 (formerly S4431) Operating and Maintenance Instructions for Major Gas Facilities, (Attachment 4 – Operation and Maintenance Instruction Preparation Guide);*
- *TD-4110P-08 Leak Survey after Significant Events;*
- *TD-4436P-01 Control Room Information Management Procedure;*

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- *TD-4436P-03 Control Room Alarm Management Procedures;*
- *Gas Compliance Assurance Process (GasCAP) in draft form, and*
- *TD-4022S Gas Operations Quality Control Assessment Standard in draft form.*

SED staff evaluated the procedures contained in the documents listed above and determined the following:

1. *None of the guidance documents clearly describe the procedures for responding to, investigating, and correcting the cause of the following:*
 - *Unintentional closure of valves or shutdowns as required by Title 49, CFR §192.605(c)(1)(i),*
 - *Increase or decrease in pressure or flow rate outside normal operating limits as required by Title 49, CFR §192.605(c)(1)(ii),*
 - *Operation of any safety devices as required by Title 49, CFR §192.605(c)(1)(iv).*

Therefore, SED determined that the guidance materials provided by PG&E do not specifically and adequately address each type of abnormal operation defined by Title 49, CFR §192.605(c), nor do they clearly provide the appropriate response based on the situation and facilities involved.

2. *The procedures are insufficient to comprehensively address checking for variations after an abnormal operation has ended per Title 49, CFR §192.605(c)(2)*
3. *The procedures do not describe a process for notifying responsible personnel of an abnormal operation per Title 49, CFR §192.605(c)(3).*
4. *Although PG&E standards describe control room personnel duties to include reporting of abnormal operations and conditions, the specific process is not included in the procedures. The procedures PG&E cited as addressing reviews of operating personnel's response to abnormal operations and correction of deficiencies in procedures controlling abnormal operations, as contained per Title 49, CFR §192.605(c), are inadequate to specifically address abnormal operations requirements or they are in draft forms, (i.e. have not been published); therefore, not currently part of the operations and maintenance manuals.*
5. *PG&E's proposed guidance documents GasCAP and TD-4022S, Gas Operations Quality Control Assessment Standard appear to satisfy the intent of the code requirement by Title 49, CFR §192.605(c)(4); therefore, PG&E should publish these guidance documents promptly and train its employees accordingly by 12/31/13.*

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As a result of SED's evaluation of PG&E's GERP, standards, and procedures that address responding, investigating, and correcting the cause of abnormal operations; checking variations from normal operations, notifying responsible personnel when abnormal operations occur; and verifying the effectiveness of the procedures controlling abnormal operations, SED determined that PG&E must take the following actions:

- 1. PG&E must include in its operations and maintenance manual a robust set of procedures that clearly and adequately address each type of abnormal operation listed in Title 49, CFR §192.605(c). PG&E must ensure that abnormal operations have a separate set of procedures for emergency situations.*
- 2. The procedures must address all the minimum requirements as required by §192.605(c), to at least include procedures for continued integrity and safe operation per Title 49, CFR §192.605(c)(2), and adequate notification to responsible operator personnel per Title 49, CFR §192.605(c)(3). The procedures must also specify documentation requirements, and include a process to specifically evaluate the effectiveness of abnormal operation procedures, along with the corresponding process for correction of deficiencies per Title 49, CFR §192.605(c)(4).*
- 3. The guidance documents required for abnormal operations should be stand-alone documents that are easy for PG&E employees to follow and reference (hyperlink) applicable sections of other PG&E guidance materials.*
- 4. In addition to operations and maintenance functions performed by field personnel, tasks performed by operations control, engineering, integrity management, and other functions associated with an office facility require written procedures for abnormal operations that must be included in the operations and maintenance manual."*

Findings:

The staff of the SED, Gas Safety and Reliability Branch (GSRB) conducted a General Order 112-E audit of PG&E's Operation, Maintenance, and Emergency Program from February 4-7, 2013. The audit consisted of a review of PG&E's Operation, Maintenance, and Emergency Program and related records for their adequacy. No field inspections were performed as a part of this audit.

On June 27, 2013, SED staff notified PG&E of its audit findings, consisting of 21 violations of the code of federal regulations and three areas of concern. Of the 21 violations, SED determined that PG&E's corrective action plans were acceptable for 19, and the violations did not create any hazardous conditions for the public and utility employees. SED may review the

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implementation of the corrective actions addressing those 19 violations during future inspections. However, Violation #3 of the audit letter, which is a violation of 49 CFR §192.605(b)(8) and Violation #5 in the audit letter which is a violation of 49 CFR §192.605(c) are considered to have serious public safety implications.

On July 29, 2013 PG&E responded to violation #3 of the SED audit report and stated the following:

“PG&E agrees with this finding.

PG&E formed a gas Quality and Improvement (Q&I) organization in 2012 and includes three primary functions: Quality Control activities, Quality Assurance activities, and administration of gas operation’s Corrective Action Program (CAP). Prior to the creation of this organization in addition to the functions described in the audit findings, PG&E had a written QA Audit Standard: Risk-6301S published in November 1, 2011 and QA Audit Procedure: Risk-6301P-02 published December 23, 2011. QC programs have also been in place for Field Services (since the 1990’s), Leak Survey (since 2009), Leak Repair (since 2009), Locate & Mark (since 2011), Transmission Construction (since 2011) and Distribution Construction (since 2013) with additional programs under development.

The Gas Operations Corrective Action Program (CAP) Standard: TD-4020S and Gas Operations Corrective Action Program (CAP) Instructions Procedure: TD-4020P-01 were published March 13, 2013. These written procedures define a new program which encompasses the improvement aspect of Q&I. CAP is intended to centrally capture and track issues (equipment failures, incidents, near hits, QC results, audit findings, procedure deficiencies, training deficiencies, etc.) and subject them to a structured evaluation and process in order to drive continuous improvement and effective problem resolution. The purpose of CAP is to perform risk-based analysis on issues to understand the underlying causes in order to develop corrective actions that will not only mitigate the issue, but also prevent recurrence of the same issue. Over time, through advanced trending, CAP is also intended to identify areas of potential concern and proactively address them.

PG&E is in the process of creating updated QA Audit guidance documents for the gas organization and will publish new QC guidance documents to reflect the centrally administered QC programs. The updated documents are planned to be published by June 30, 2014.”

In the same response letter, PG&E responded to violation #5 of the SED report and stated the following:

“PG&E agrees with this finding and plans to develop new guidance document(s) to

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address the topic of abnormal operations with a planned publication date of November 30, 2014.

Standard TD-4020S, Gas Operations Corrective Action Program was published on March 13, 2013. (See Attachment 9) Standard TD-4022S, Gas Operations Quality Control Assessment, will be published by December 31, 2013.”

Recommendations:

It is imperative that PG&E operate its gas systems in compliance with GO 112-E and in a manner that promotes and safeguards the health and safety of the public. In order to assure safe and reliable gas service as per Title 49, CFR, 192.605 (b)(3) and 192.605(c) PG&E must have complete written procedures which define how to determine the effectiveness and adequacy of all of its maintenance and normal operations by reviewing the work done and modifying existing procedures when deficiencies are identified; additionally, PG&E must have guidance documents which specifically and adequately address each type of abnormal operation for its transmission lines.