

**PACIFIC GAS AND ELECTRIC  
COMPANY**

**GENERAL ORDER 174**

**2019 ANNUAL ELECTRIC SUBSTATION REPORT**

June 30, 2020

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**GENERAL ORDER 174**  
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**I. GENERAL**

Pursuant to Section IV, Paragraphs 40.1 and 40.2 of the California Public Utilities Commission's (Commission) General Order (GO) 174, adopted in Decision No. (D.) 12-10-029, Pacific Gas and Electric Company (PG&E) transmits its Annual Substation Report, which includes:

- PG&E's Substation Inspection Program Summary; and
- A report summarizing PG&E's completed and past due substation inspections for 2019.

**II. SUBSTATION INSPECTION PROGRAM SUMMARY**

Accompanying this report as Appendix A is a copy of PG&E's Substation Inspection Program Summary, which complies with Section III of GO 174. This summary is effective as of June 30, 2020. There have not been any changes made to the Program since the prior version of the Program Summary.

**III. SUMMARY OF COMPLETED AND PAST DUE SUBSTATION INSPECTIONS**

**A. SUMMARY OF SUBSTATION INSPECTIONS**

As required by GO 174, Table 1 below summarizes completed and past due

inspections for the 2019 calendar year. The data presented in Table 1 is a point-in-time reporting of inspections and, as of the date of submittal to the Commission, is the most accurate data available. As described in PG&E’s GO 174 Substation Inspection Program Summary, infrequently there may be special circumstances out of PG&E’s control that prevent performing of a substation inspection as planned (such as inclement weather, lack of access due to snow, fire, or other natural causes). For these circumstances, the substation inspection will be performed when conditions are safe and equipment is accessible. Any planned inspection that is missed or performed late will be reflected as Past Due in the GO 174 Annual Report, along with the reason(s) why the inspection was missed or late.

**Table 1 – 2019 Substation Inspection Summary**

<b>Type of Inspection</b>	<b>Completed</b>	<b>Past Due</b>
Substation Inspections	6449	0

Notes:

- 1) Definition of Reporting Unit Basis
  - A. Substation Inspection: PG&E defines a substation inspection as a planned basic evaluation, performed using visual and auditory senses (if applicable) to identify abnormal conditions.
  - B. Definition of a Substation: PG&E defines a substation as an assemblage of equipment from 4 to 500kV, secured via perimeter fence, wall or building and under the control of qualified personnel, through which electric energy is passed for the purposes of switching or modifying its characteristics. This includes facilities with transformers, switching stations, PG&E-owned equipment inside a third party-owned facility, and 12/4kV (or 21/4kV) unit substations. Note the term “control” does not imply continuously manned operation.
  - C. Count of Substation Inspections Completed or Past Due: PG&E’s count of

inspections for substation inspections is a count based on substations which serve distribution customers. The count excludes customer substations and transmission substations not serving distribution customers.

2) Definition of “Completed”

Data in this column represents the units due to be inspected and actually inspected during the entire reporting period, which is the calendar year of 2019. Thus, if applicable, the Completed column can also include inspections that were scheduled within the reporting calendar year but Past Due. The data does not include outstanding inspections from prior reporting calendar years that may have been inspected in 2019.

3) Definition of “Past Due”

Data in this column represents the total units scheduled for inspection within the reporting period, but the inspection was not performed by the set due date. The data does not include any outstanding inspections from prior reporting periods.

**B. EXPLANATION OF PAST DUE INSPECTIONS**

PG&E completed all inspections on time, with no past due inspections.

However, PG&E did identify two instances of missing inspection records. Through a verification of data while preparing its GO 174 Annual Report, PG&E identified two substation inspections that occurred in 2019 where electronic data collected during the monthly inspection was lost during transfer from a mobile device to its mainframe.

These two substation inspections were completed on time in the month they were assigned. PG&E has provided explanation in ‘a.’ and ‘b.’ below. They are not reflected in the “Past Due” column of Table 1 – 2019 Substation Inspection Summary.

- a. Maple Substation, located in Oakland, California, and maintained by our Oakport Maintenance Headquarters, did not have substation inspection data recorded for December of 2019. SAP work order #44000420 was created for

the December 2019 inspection. The inspector's name was captured on 12/11/2019 in the electronic SAP work order as labor charged to perform the inspection and the same inspector's name was recorded on 12/11/2019 in the station logbook located at Maple Substation when the December 2019 inspection occurred. The inspection cycle for the affected substation is on an every other month basis. On the next planned inspection in February of 2020, no abnormal conditions requiring repair were identified.

- b. Rough and Ready Substation is located in Stockton, California and it is maintained by our Stockton Substation Maintenance Headquarters. It did not have substation inspection data recorded for August of 2019. SAP work order #43861747 was created for the August 2019 inspection. The inspector's name was captured on 8/07/2019 in the electronic SAP work order as labor charged to perform the inspection and the same inspector's name was recorded on 8/07/2019 in the station logbook located at Rough and Ready Substation when the August 2019 inspection occurred. PG&E also identified notification #117750664 that was generated as a result of the August 2019 station inspection for Rough and Ready Substation. The inspection cycle for the affected substation is on an every other month basis. On the next planned inspection in October of 2019, no abnormal conditions requiring repair were identified.

# **APPENDIX A**

## **Substation Inspection Program Summary**

**Meeting Section III of CPUC General Order 174 (adopted October 25, 2012)**

**Rules for Electric Utility Substations**

**PG&E Substation Inspection Program Summary**

**1. Scope**

This document provides the general requirements for the inspection of substation facilities that are owned by Pacific Gas and Electric Company (PG&E). This document is prepared to ensure compliance with California Public Utilities Commission General Order (“GO”) 174 “Rules for Electric Utility Substations.”

The intent of PG&E’s Inspection Program is to help ensure the safe delivery of reliable power in a cost-effective manner and comply with all applicable regulatory requirements.

**2. Definitions**

**Annual** – A calendar year.

**Customer Substation** – a Substation that functions as the main source of electric power supply for a single customer, including those that provide feed through for additional customers.

**Good Utility Practice** – FERC issued Order 890 (February 16, 2007) and defined Good Utility Practice as: “Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region, including those practices required by Federal Power Act section 215(a)(4).”

**Monthly** – Once per calendar month.

**Substation** – An assemblage of equipment from 4 to 500kV, secured via perimeter fence, wall or building and under the control<sup>1</sup> of qualified personnel, through which electric energy is passed for the purposes of switching or modifying its characteristics. This includes facilities with transformers, switching stations, PG&E-owned equipment inside a third party-owned facility, and 12/4kV (or 21/4kV) unit substations.

**Substation Inspection** – A planned basic evaluation, performed using visual and auditory senses (if applicable) to identify abnormal conditions.

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<sup>1</sup> Note the term “control” is used in GO 174, but is not meant to imply continuously manned operation.



**Substation Inspection Type** – PG&E developed substation inspection types to determine the frequency of inspection. Initially the categorization of a substation type is based on a PG&E-developed model that takes into account the risk each substation may have for public and employee safety, system criticality, security, and environmental risk. Then, field conditions or current activities (e.g., specific equipment or public issues) not represented in the model are taken into account, and the final substation type categorization is then made. Type 1 substations are inspected monthly and Type 2 substations are inspected on an every other month cycle.

## General

- a. Substation Inspections – PG&E’s Substation Inspection Program is based on a time-based trigger. Substation Inspections are scheduled to be performed based on the substation type. For example, Type 1 is monthly and Type 2 is every other month.

Note: Infrequently there may be special circumstances out of our control which prevent performing the substation inspection as planned, such as inclement weather, or lack of access due to snow, fire, or other natural causes. For these circumstances, the substation inspection will be performed when conditions are safe and equipment is accessible. Any planned inspection that is missed or performed late will be reflected as past due in the GO 174 Annual Report, along with the reason(s) why the inspection was missed or late.

The Substation Inspection Program activities include:

- i. Inspecting the substation and equipment for damage or abnormal conditions.
- ii. Inspecting all other items appropriate to the substation and its equipment.
- iii. Documenting and reporting any abnormal conditions found in the substation and documenting any repairs, services or other work performed.

Note: The Program does not include readings of equipment meters or environmental activities, though PG&E may perform these during the same planned visit. The program also does not include other maintenance items such as unplanned or corrective maintenance, on-line condition monitoring, infrared and corona camera inspection, or testing.

- b. Qualified Personnel – Substation Inspections are performed by qualified personnel who have the training and experience to perform inspections, repairs, and other services to substation equipment.
- c. Facilities – At a minimum, qualified personnel perform a visual and/or auditory (if applicable) inspection of the following substation equipment and facilities, whether in service or not:

- Batteries
- Buses
- Support structures
- Capacitor banks
- Circuit breakers
- Fire detection and suppression system (where applicable)
- Grounding system
- Insulators/bushings/arrestors

- Perimeter Fencing and Gates
- Transformers
- Reactors
- Voltage Regulators

- d. Records – Upon completion of a substation inspection, the following information (at a minimum) is captured via electronic check sheet records
- Inspector name or identification
  - Date the inspection was completed
  - Brief description of identified discrepancies
  - Condition rating (where applicable)
  - Estimated Date of Corrective Action (whenever applicable), determined with a timeframe from the date a corrective action notification is created)
- e. Record Retention – Records of completed substation inspections are retained for not less than 5 years.
- f. Reporting – On July 1 of each year, PG&E will submit an Annual Report to the Safety and Enforcement Division of the CPUC summarizing the number of completed and past due substation inspections for the prior calendar year.

Consistent with GO 174, PG&E’s Annual Report excludes Customer Substations and transmission substations not serving distribution customers.

The Annual Report will include a matrix showing the following:

Type of Inspection		Completed <sup>(1)</sup>	Past Due <sup>(2)</sup>
Substation Inspection		X,XXX	X

<sup>(1)</sup> Data in this column represents the units due to be inspected and actually inspected during the entire reporting period, which is the calendar year of YYYY. Thus, if applicable, the Completed column can also include inspections that were scheduled within the reporting calendar year but Past Due. The data does not include outstanding inspections from prior reporting calendar years that may have been inspected in YYYY.

<sup>(2)</sup> Data in this column represents the total units scheduled for inspection within the reporting period, but the inspection was not performed by the set due date. The data does not include any outstanding inspections from prior reporting periods.

**Revision Log**

Revision Number	Date Effective	Description of Change(s)
0	7/1/2014	Issued Original Substation Inspection Program Summary

1	6/29/2015	Minor changes. Removed Criticality Matrix terminology and replaced it with Substation Inspection Type. Also made non-substantial changes in the Definitions Section.
1	12/31/2016	No Changes were made to the Substation Inspection Program
1	12/31/2017	No Changes were made to the Substation Inspection Program
1	12/31/2018	No Changes were made to the Substation Inspection Program
1	12/31/2019	No Changes were made to the Substation Inspection Program