

PACIFIC GAS AND ELECTRIC COMPANY

**GENERAL ORDER 165
ANNUAL ELECTRIC DISTRIBUTION INSPECTION REPORT
FOR 2014**

June 10, 2015

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I. 2014 ELECTRIC DISTRIBUTION INSPECTION SUMMARY

Pursuant to Section III.D of the California Public Utilities Commission's (Commission) General Order (GO) 165, Pacific Gas and Electric Company (PG&E) submits its Annual Electric Distribution Inspection Report which details PG&E's 2014 electric distribution patrol and inspection activities.

Table 1 lists five categorical types^{1/} of electric distribution inspections required by GO 165: Overhead (OH) Patrols, Underground (UG) Patrols, OH Detailed Inspections, UG Detailed Inspections, and Wood Pole Intrusive. Table 1 denotes the total units of work due by inspection type for the 2014 reporting period and the number of outstanding (not completed before the date due) inspections within the same reporting period for each of the five categories.

The data presented in Table 1 is a point-in-time reporting of inspections due and outstanding in 2014, and is, as of June 10, 2015, the date this report was signed by the verifying officer, deemed as the most accurate data available. As shown in the table, by December 31, 2014, PG&E had completed 99.99% of its OH patrols, 99.95% of its OH detailed inspections, 100% of its UG patrols, 99.92% of its UG detailed inspections, and 100% of its wood pole intrusive inspections by their 2014 due dates.

1/ GO 165 only requires four categorical types, but in order to present the data in a more meaningful format, this report divides the "Patrol" category in the sample report template in GO 165 into the subcategories "OH Patrols" and "UG Patrols".

Table 1 – 2014 Electric Distribution Inspection Summary

Type of Inspections (1)	Due (2)	Outstanding (3)
OH Patrols	1,252,982	30
OH Detailed Inspections	493,237	222
UG Patrols	243,533	0
UG Detailed Inspections	135,092	108
Wood Pole Intrusive	192,223	0

Notes:

(1) Definition of Reporting Unit Basis

- a. OH: PG&E defines an overhead unit as any PG&E solely owned, PG&E jointly owned, or third party owned pole supporting PG&E equipment or conductors operating at less than 60,000 volts. PG&E also patrols and inspects the PG&E owned overhead equipment, overhead conductors, and streetlights on those poles, but these facilities are not counted as additional overhead units for the purposes of this report.
- b. UG: PG&E defines an underground unit as any PG&E or third party owned padmount facility, subsurface enclosure, or vault containing PG&E primary cables or equipment that operate at less than 60,000 volts. PG&E also patrols padmount facilities, subsurface enclosures, and vaults containing only secondary facilities, but these facilities are not counted as underground units for the purposes of this report.
- c. Wood Pole Intrusive: PG&E defines a wood pole intrusive unit as any intrusively inspected PG&E solely or jointly owned pole.

The patrol unit counts are generally based on the most recent preceding detailed inspection map unit counts.

(2) Definition of “Due”

Units in the “Due” column represent the total units of work by inspection type that PG&E determined should have been completed by the end of 2014. This data is based on year-end analysis and not on projections made at the beginning of 2014.

In addition to regularly scheduled patrol and inspection units, this column includes re-inspection units that PG&E scheduled for completion in 2014. Re-inspection units are discussed in previously submitted GO 165 Annual Inspection Reports.

Although GO 165 requires detailed inspections of padmount facilities on a minimum five year cycle, PG&E performs detailed inspections of padmount facilities on a three year cycle. For the purposes of this report, padmount facilities are “due” based on PG&E’s more frequent underground three year detailed inspection cycle.

Wood pole intrusive data in this column represents the total poles intrusively tested by PG&E’s Pole Test & Treat Program. PG&E maintains a 10 year inspection cycle for most poles; however, poles under 15 years old and previously tested poles under 50 years old with an original treatment of pentachlorophenol are intrusively tested on a 20 year cycle per the minimum inspection interval of GO 165.

(3) Definition of “Outstanding”

In 2014, PG&E partially transitioned from a calendar year based patrol and detailed inspection cycle to a cycle based on the revised definition of “year” established by D.13-06-011, Appendix B, at p. B-3:

“For the purpose of implementing the patrol and detailed inspection intervals in [GO 165 Table 1], the term “year” is defined as 12 consecutive calendar months starting the first full calendar month after an inspection is performed, plus three full calendar months, not to exceed the end of the calendar year in which the next inspection is due. A required inspection may be completed any time before the expiration of the associated inspection interval using this definition of “year,” but not after. The completion of an inspection starts a new inspection interval that must be completed within the prescribed timeframe using this definition of “year.”

PG&E is adjusting and augmenting its systems and processes in order to comply with the new definition of “year”. To establish new deadlines for the purposes of this report and for this transition year^{2/}, PG&E used 2013 patrol and inspection map completion dates as a baseline to establish 2014 due dates per the revised criteria above. If a 2013 patrol or inspection map completion date was unavailable because a map was new in 2014 or because it was on a rural two year cycle and not required to be patrolled or inspected in 2013, that map’s completion deadline

2/ PG&E continues to update its technology and refine its processes for meeting the revised patrol and inspection timelines established under D.13-06-011. In 2015, PG&E determined that its existing practice of using previous patrol and inspection map completion dates, instead of map start dates, to calculate unit due dates introduced a small chance that a patrol or inspection of an individual asset or assets, not an entire map, may exceed the 12 plus 3 month cycle time required by D.13-06-011. PG&E will adjust its calculation methodology beginning in 2016 to utilize the previous year map start dates, plus three months, as the deadline for when the 2016 patrol or inspection needs to be completed.

was considered to be the end of the 2014 calendar year. PG&E will fully transition to the new patrol and detailed inspection cycles in 2015 when there are two years of patrol and inspection baseline data.

Units in the patrol and detailed inspection “Outstanding” columns in Table 1 represent the total units of work by inspection type that PG&E determined should have been completed by the due dates established through the methodology above, but were not. See Section II below for more details.

As discussed above under the definition of “Due”, PG&E performs detailed inspections of padmount facilities on a three year cycle as opposed to the five year cycle established by GO 165. For the purposes of this report, padmount facilities are considered “Outstanding” if they were due to be inspected by the due dates discussed above, adjusted for PG&E’s three year inspection cycle, but were not.

For wood pole intrusive inspections, the term “year” is defined in GO 165 as a calendar year. Units in the wood pole intrusive “Outstanding” column in Table 1 represent the total units that PG&E determined should have been intrusively inspected by the end of the 2014 calendar year but were not.

II. EXPLANATION OF OUTSTANDING UNITS

There are a total of 222 OH detailed inspection, 30 OH patrol^{3/}, and 108 UG detailed inspection units in the “Outstanding” column in Table 1. There were no “Outstanding” UG patrols or wood pole intrusive inspection units in 2014.

- a. Two hundred and eleven (211) OH and eighty-three (83) UG detailed inspection units in PG&E’s North Bay Division, and thirty (30) OH patrol units in PG&E’s Peninsula Division are in the “Outstanding” column of Table 1 due to clerical errors. In the

3/ During an end of year review of 2014 patrol and inspection maps, PG&E’s Sierra Division and PG&E’s San Jose Division each found an OH GO 165 patrol map package missing from its files, representing 23 and 15 units, respectively. Timecards and financial reporting indicate that patrols were completed before their 2014 due dates. PG&E considers these patrols completed on time due to the timecard and financial reporting evidence, and does not consider the units on the patrols as “Outstanding.” However, out of an abundance of caution, PG&E re-patrolled the maps on December 1, 2014 and May 6, 2015, respectively.

North Bay Division, an end-of-year work review found that clerks erroneously recorded, on a work tracking spreadsheet, that units were inspected when they actually were not. In the Peninsula Division, a data analyst found that she had mistakenly removed a patrol map with 30 units from PG&E's inspection work management system when the map should not have been removed. As a result of these errors, the units were not patrolled or inspected before their due dates had passed. Once these errors were identified, the inspections in the North Bay Division were completed by December 19, 2014, and the patrols in the Peninsula division were completed by October 28, 2014. These units are considered "Outstanding" because, although they were patrolled or inspected in 2014, they were not patrolled or inspected before a "year," as defined by GO 165, had passed.

- b. Fifteen (15) UG and three (3) OH detailed inspection units in PG&E's Los Padres Division are in the "Outstanding" column of Table 1 due to human error. Inspectors assigned to inspect these units overlooked them on their inspection maps and did not inspect the units. Once the errors were identified, all units were inspected by November 18, 2014. These units are considered "Outstanding" because, although they were inspected in 2014, they were not inspected before a "year," as defined by GO 165, had passed.
- c. Four (4) UG detailed inspection units in PG&E's Stockton Division are in the "Outstanding" column of Table 1 due to a map system printing issue. When printed on a paper map, the symbols representing these units were faint and difficult to see. As a result, the units – splice boxes containing only underground cable – were

initially missed by the inspector. The error was identified during routine supervisor review of the inspector's work, and the units were subsequently inspected by July 14, 2014. PG&E's mapping system was also updated to make the map symbols more visible on printed maps. These units are considered "Outstanding" because, although they were inspected in 2014, they were not inspected before a "year," as defined by GO 165, had passed.

- d. Two (2) UG detailed inspection units in PG&E's Los Padres Division are in the "Outstanding" column of Table 1 due to mapping errors. One unit, identified by a PG&E line supervisor while overseeing maintenance work, was not inspected because it was not shown on PG&E inspection maps. The second unit was not inspected because it was mislabeled on an inspection map as a type of enclosure that does not require inspection. The error involving the second unit was identified when a supervisor noticed the unusual placement of the mapping symbol during routine review of inspection materials. Both units were enclosures containing primary splices only. The maps were corrected, and the units were inspected on October 8, 2014 and November 4, 2014 respectively.
- e. One (1) UG detailed inspection unit in PG&E's Los Padres Division is in the "Outstanding" column of Table 1 due to incorrect documentation of an accessibility issue by an inspector and a review error by the inspector's supervisor. The inspector was unable to initially access the unit for inspection due to encroachment by a customer owned palm tree. The inspector correctly completed a form to revisit the site to clear the tree and finish the inspection, but incorrectly marked the inspection of

the unit as complete when it was not. During routine supervisory review of the inspector's work, the inspector's supervisor made the erroneous assumption that the inspection was complete due to the incorrect marking. Believing that the inspection was complete, the supervisor created a notification to the customer to clear the palm tree, but did not enter the work to revisit the location into PG&E's work management system. The error was later identified by a clerk who was researching the palm tree removal notification. Once the error was identified, the palm tree was subsequently cut back to obtain access, and the enclosure was inspected on September 19, 2014. This unit is considered "Outstanding" because, although it was inspected in 2014, it was not inspected before a "year," as defined by GO 165, had passed.

- f. One (1) UG detailed inspection unit in PG&E's North Bay Division is in the "Outstanding" column of Table 1 due to a mistaken assumption regarding PG&E divisional responsibility for the unit. The unit was located near the border of PG&E's North Bay Division and PG&E's Sonoma Division. Staff in the North Bay Division incorrectly assumed that inspection of the unit was the responsibility of the neighboring Sonoma Division when it was not. Once the error was identified, the unit was inspected on March 13, 2015. This issue was additionally reviewed with supervisors during a patrol and inspection program leadership team meeting in 2015 to prevent future occurrence. A more detailed communication on the issue was also distributed on June 1, 2015.
- g. Eight (8) OH detailed inspection units and two (2) UG detailed inspection units are in the "Outstanding" column as a result of work verification findings related to 2014

work in PG&E's Yosemite and Kern Divisions, respectively. See Section III for more detail.

III. WORK VERIFICATION FINDINGS

PG&E has a dedicated work verification group designed to improve and validate the quality of PG&E's GO 165 inspections. The work verification program samples inspector work throughout the year. If any issues with an inspector's work are found, the work verification group will sample other work performed by that inspector to assess the scope of the issue and determine the scope of any corrective actions.

As noted in Section II above, in May of this year, work verification specialists reviewing 2014 inspection work performed in PG&E's Yosemite Division identified eight (8) units on a single overhead inspection map that were not marked as inspected. PG&E subsequently inspected these eight units on May 18, 2015 and has included them in the "Outstanding" column of Table 1 because PG&E cannot be certain they were inspected before the end of 2014.

When work verification specialists sampled additional overhead inspection work performed by the inspector who missed the eight units in Yosemite Division, they identified additional issues with the quality of his work. Although the specialists found evidence that the inspector visited the areas he claimed to have inspected (for example, he performed minor work and documented maintenance issues in those areas), the sampling also found that he had missed maintenance issues that he should have identified or remediated during his inspections. This particular inspector performed overhead inspections from September 2014 through December 2014. PG&E is classifying the additional findings on the inspector's overhead work as an

inspection work quality issue and not as a missed or outstanding inspection issue, and has not included the units in the “Outstanding” column in Table 1. Out of an abundance of caution, however, PG&E will re-inspect all 2014 overhead units recorded as inspected by this inspector.

Separately, on May 15, 2015, another work verification specialist identified issues with a different inspector’s 2015 underground inspections in PG&E’s Kern Division. When PG&E inspectors inspect underground units, they are required to install verification stickers in those units as evidence that they in fact performed the inspection. The work verification specialist’s investigation found that the Kern Division inspector had not installed verification stickers in ten (10) underground units that he had recorded as inspected in 2015 and two (2) underground units that he had recorded as inspected in 2014. PG&E has included the two 2014 units that were missing verification stickers in the “Outstanding” column in Table 1 because PG&E cannot be certain they were inspected before the end of 2014. This employee, who worked as an inspector from August 2014 through February 2015, also performed underground patrols and overhead inspections in Kern Division, and overhead inspections in Sierra Division. PG&E will re-inspect and re-patrol all 2014 and 2015 overhead and underground units recorded as inspected and patrolled by this inspector.