



**Pacific Gas and
Electric Company**™

***2022 Quality Verification Distribution
Audit # 690 System Inspections Audit
Final Report***

Prepared By: [REDACTED]
QVD South Supervisor

Date: 11/21/22

Revised on 12/27/22

Approved By: [REDACTED]
Quality Management Manager

Date: 11/21/22

Approved By: [REDACTED]
Quality Management Director

Date: 12/27/22

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Final Report	2022_QVD_690_System Inspections Audit	Report Number: 2022 QVD #690 Distribution
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Review Lead	QVD	Status	Final Report	Plan Date	3/21/2022
Review Category	Audit of documentation and field work			Start Date	4/4/2022
Locations	System Wide			End Date	11/21/2022

Review Team	Quality Verification Distribution (QVD)			
Requested By	██████████	Title	Director, Quality Management	
Process Owner	Janisse Quinones	Title	Senior Vice President, Electric Operations	
Authorization	██████████	Title	Manager, Quality Verification	
PG&E Legal Dept. Purview	Yes			
Primary Review Contact	██████████			

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Sampling Methodology

Sampling for the Distribution System Inspection audit included a Confidence Level of 99%, Estimated Compliance of 98% and a Margin of Error of 4.0%. To calculate the number of samples required, the total population of completed inspections in 2021 was utilized as an approximate value for the estimated population for 2022. As the population for 2022 unfolded, it was determined that the sample size using the 2021 population was still statistically valid.

The samples were calculated per region (5 regions) per month (7 months of auditing). The total number of samples per region per month was then calculated using these parameters resulting in 81 sample locations per region and totaling 405 total sample locations per month of the audit.

Executive Summary

In January 2022, Quality Verification Distribution (QVD) was requested by the Enterprise Risk & Safety functional area to perform a monthly rolling audit of System Inspections for the duration of the 2022 enhanced overhead (OH) Inspection cycle. This audit was part of the 2022 Wildfire Mitigation Plan and the PG&E STIP (Short Term Incentive Program). The audit began on 4/4/22 and continued through 11/7/22. Each month of audits was focused on the previous month of Inspections. *Example: The randomized sample for the April 2022 audits were taken from March 2022 completed Inspections.*

Audit Assumptions:

- Inspections would commence in January and end in July 2022. Therefore, Audits would commence in February and end in August.
- Quality would pull completed inspections from the previous month to create a sample for the audit team in the first few business days of each month. Quality verification had not audited in this manner previously.

Audit Assumption Impacts:

- Distribution System Inspections did not start performing inspections until mid-March; therefore, the audit did not commence until April 2022. The inspections completed in July as planned. The inspection timeframe of 7 months condensed to 5 months. Planned inspections were 280k, actual was 384k.
- Due to the condensed timeframe and late start of the system inspections, August through November audit results did not reflect the previous month's inspections; though quality verification completed the audit within the planned 7 month time-frame.
- In July, System Inspections Execution, System Inspections Quality Control and Electric Quality Management agreed to changes to the audit cadence and sampling timing:
 - When available, pull previous two weeks of completed inspections and report findings daily.

- Ensure that all inspectors, both internal and contract, are included in random samples. Up until that point, approximately 80% of inspectors had been included in the samples.

2,202 overall nonconformances (NC) were found out of 3,041 locations audited. The overall ¹ Quality Pass Rate (QPR) of the audit was 77.97%. This was below the QPR ² target of 90% and threshold of 88%.

- 847 were classified as ³ Critical Attribute NC
 - 34 were critical attribute record NC.
 - 813 were critical attribute field NC.
- 1,355 were classified as Non-Critical Attribute NC
 - 857 were non-critical attribute record NC.
 - 498 were non-critical attribute field NC.

The zero tolerance & high-risk findings were:

1. (5) Zero Tolerance – Work Not Done (WND): (4) Missed Inspections; (1) Unsafe conductor dead-end
2. (10) High-Risk – (5) Exposed/damaged conductors (potential fire hazard); (3) Wrong pole inspected; (2) PCB transformers leaking oil

The top three Critical attribute findings were:

1. ⁴ (87) OH-C49: Line splices are present less than 2 ft. from conductor support.
2. ⁴ (72) OH-J59: Broken or slack guy wire.
3. ⁴ (65) OH-C97: The insulator or pin is broken or damaged / corroded / contaminated as noted.

The top three non-Critical attribute findings were:

1. (746) DR-31: Inspect App Checklist completed incorrectly or missing information.
2. ⁴ (87) OH-C49: Line splices are present less than 2 ft. from conductor support.
3. (86) OH-M1: The "High Voltage" sign(s) is damaged, illegible, or obstructed from view.

¹ The Distribution Quality Pass rate was measured by the following equation: $100 \times (\text{Locations Pass} \div \text{Locations Total})$. Locations Pass was defined as: Number of System Inspection (SI) inspections in HFTD Tier 3 and Tier 2 from the statistical sample that pass quality verification reviews regarding "STIP Failures." Locations Total was defined as: Total statistical random sample of all completed SI inspections in the prior calendar month, one equipment ID per inspection. STIP Failures were defined as: There are two points of failure. An inspection is reviewed by Quality Verification to ensure all critical attribute conditions are documented, and, if there is a critical attribute condition that requires a maintenance notification, that a notification has been created or updated in the system of record. If either or both are missing, there is one STIP failure.

² Target setting methodology: Threshold is set at 88.00%, an improvement over the 2021 EOY performance of 87.80% (historical performance is limited to partial data in 2021). Target is set at 90.0% and assumes process improvement efforts (skills assessment, improved feedback process, field work verification timing, etc.) in 2022 to improve the quality of Distribution Inspections. Maximum is a 4.8% improvement over 2021 performance.

³ Critical Attribute Condition: A condition(s) that could lead to either an ignition point or a wire down situation that could result in a potential fire ignition.

⁴ This type of NC could lead to a potential wildfire ignition.