# 1.0 Summary

This utility procedure defines the Desktop Quality Control (QC) activities for the detailed overhead inspections conducted in PG&E's System Inspections (SI) organization under the GO 165 Compliance program for Electric Transmission and Distribution assets. Inspection accuracy, completeness and record keeping will be verified.

The QC process checks for adherence of the inspections to the guidance provided in the Electric Distribution Maintenance Manual (TD-2305M) and the Electric Transmission Maintenance Manual (TD-1001M).

## 1.1 Target Audience

The following System Inspections personnel are the key target audience for this procedure.

- QC Specialist
- QC Business Analyst
- Quality Manager
- Compliance Supervisors and Inspectors
- Compliance Execution Leadership

**1.2 Reference procedure:** GOV-1038S, "Inspection and Corrective Maintenance Governance".

**1.3 Level of use**: Informational Use

**1.4 Safety**: Informational Use

# 2.0 Procedure Steps

## 2.1 QC Assessment Triggers

Desktop QC activities will be conducted as part of routine inspection quality verification, but it can also be initiated for any ad-hoc quality performance issues observed in the SI environment. The following table lists the three selection methods.

| Selection Method | Description |
|---|---|
| Random selection | Determine the inspectors to evaluate using a simple random process methodology. |
| Targeted | Picking confirmed "Outlier" inspectors for review based on Quality KPI tracking data. |
| Probable cause | If a vendor or inspector's performance is deemed "suspect" or unsatisfactory through other SI processes or channels, additional desktop QC inspection will be conducted to verify work quality. |

## 2.2 Sampling

Desktop QC activities will be conducted as part of routine inspection quality control, but it can also be initiated for any ad-hoc quality performance issues observed in the SI environment.

Due to the large volume of detailed inspection conducted, the Desktop QC process will only review a sample from the overall completed inspection population. Statistically valid sampling plans will be established which will utilize key system risk information available during the inspection period to select appropriate confidence level and compliance error rates.

The QC Business Analyst will be responsible for generating and maintaining all sampling excel files in the SI Quality Control Teams site.

## 2.3 Routine Desktop QC Sampling

(1) The QC sampling plans will be derived from “Completed” inspections for that inspection method.

(2) QC will target to stay current and review inspection records generated in the prior two-week period.

(3) Obtain a list of all completed equipment IDs for the inspection method (example MAT code BFZ/BFZ) for the review period. For Transmission and Distribution OH Ground Inspections, the BW Attainment Report will be used.

(4) Determine the sample size using the sample size calculator. For general random QC sampling a 95% confidence level and 10% margin of error will be used. These parameters can be adjusted to accommodate varying resource levels or other system risks with documented justification.

(5) Statistical sampling - once the total sample size is generated by Division/MWC, calculate the number of records for each inspector proportionate to the total volume of inspections conducted by the inspector in that Division/MWC. Once the counts are generated for each inspector, records will be randomly picked. For example., if an inspector performed 100/1000 (10%) inspections in that Division for the two-week period, and the sample size for the Division was 100, then QC will look at 10 randomly assigned records for that inspector.

(6) The goal is to assess every inspector that was actively performing inspections for the work period being QC assessed.

(7) An Excel file will be generated identifying each of the random samples for the work period being assessed. In addition, the sampling excel file will contain all asset data for the inspected equipment and a link to the completed inspection log for the QC Specialist to complete the Desktop QC Assessment Report.

(8) Sampling files will reside in the “Desktop QC Sampling” folder on the SI Quality Control Teams site.

## 2.4 Non-Routine/Ad-hoc Desktop QC Sampling

(1) For all non-routine Desktop QC Assessment requests, a statistically valid sampling plan will be developed with critical to quality data input from the requesting group.

(2) The sampling parameters will vary depending on the impacted inspection population size and the associated risk factors.

(3) Once the sample size is calculated, QC samples will be picked and an excel sampling file created.

(4) All Ad-hoc QC sampling files will reside in the “Special Projects” folder on the SI Quality Control Teams site.

## 2.5 Performing the QC Assessment

### 2.5.1 Qualifications: Desktop QC Assessment will be conducted by PG&E and/or Contract QC Specialists. The role requires:

- Extensive field experience in the maintenance and construction or inspection of electric utility assets in Distribution, Transmission and/or Substation work streams.
- Be a Qualified Electrical Worker as defined by PG&E requirements.
- At a minimum, completed an electric apprenticeship program and possess five years journey lineman/troubleman experience.
- Familiar with the corrective notification process in SAP.

### 2.5.2 Software Applications Used

- The QC Desktop process is completed via internet-based application. A digital checklist is used to document any discrepancies and applicable recommendations for corrective/preventive actions for the assessment.
- SAP Notification reports and SAP notification reporting screens will be used to validate notifications tied to the facilities being inspected.
- Additional applications will be used on a as needed basis for reference.

### 2.5.3 Desktop QC Steps

(1) Each Specialist will be assigned a set number of Divisions or MWC based on volume of work. The Division or MWC will be rotated between QC Specialists to promote unbiased reviews and allow different Specialists to assess the same Inspector over time.

(2) Work is dispatched to the Specialist via the online web application by the QC Business Analyst. An online web application form is generated for each equipment ID to be assessed. The form gets pre-populated with asset basic data that will be used for reporting.

(3) QC Specialist views the Equipment Inspection PDF record via the url provided in the online web application form.

(4) QC Specialist runs SAP report for all open notifications for the equipment ID so existing notification can be verified for accuracy compared to the inspection.

(5) The QC Specialist reviews the entire Inspection log for overall accuracy and completeness.

Verify the following:

- Use of the correct inspection form for the asset structure type (Transmission and Sub Station).
- Photos captured per requirements as documented in ELEC-0341, PSOS-0451, PSOS-0452, and PSOS-0410 (Inspector Training).
- Review and confirm in each section if abnormal conditions have been correctly identified, are marked correctly with a “Yes” or “No” and identified condition/s are correctly selected from a pre-determined drop down.
- All required Record Keeping and Declaration items have been identified and noted.
- All existing notifications at location have been reviewed and records updated in SAP.
- All new compelling abnormal field conditions identified have been logged into an existing notification or a new notification with correct FDA and priority assignment.
- That the inspector did not fail to identify or missed reporting on a compelling abnormal field condition present during the initial inspection.

(6) All discrepancies found during QC review will be recorded in detail under the specific Inspection checklist section. Specialist will provide detailed objective evidence supporting their finding(s) and list procedural or guidance documentation references where applicable.

(7) QC Specialists may suggest recommended corrections/corrective actions as “Follow Up” items in the QC form when applicable. Impacted reference documentation will be noted.

(8) Discrepancies are divided into three different classifications:

- Observation – minor documentation error or a low-risk requirement discrepancy.
- Non-Conformance – major documentation error or failure of inspector to properly assess and/or document an abnormal field condition, as per the documented requirements in Electric Distribution Preventative Maintenance (EDPM) manual (TD-2305M) and the Electric Transmission Preventative Maintenance (ETPM) manual (TD-1001M).
- Failed Non-Conformance - An inspection record review conducted by the QC specialist via photographic/other evidence that determines the inspection was not performed, resulting in a recommendation to re-inspect, and/or an inspection record review that indicates a compelling abnormal condition was miss-identified by the inspector, resulting in an incorrectly updated EC/LC notification, or failure to create an EC/LC notification.

(9) If a QC Specialist needs additional clarification related to a failed non-conformance issue before finalizing it, they will discuss the item with the QC Work stream lead. The Lead will review the suspect failed non-conformance with the QC Specialist and make a final determination as to the validity of the failed non-conformance; if fail is found valid, the lead will document and forward for remediation of the condition/s that led to a failed non-conformance.

### 2.5.4 Follow Up Activities

Recommended “Follow Up” items from QC review can be captured under the following categories:

(1) Tailboard/Training

(2) Field Visit/Shadow with SME or Supervisor

(3) Guidance document clarification/update

(4) Inspection form clarification/update

(5) CIRT activities – new notification, update existing, cancel notification

(6) CAP – for all missed A-tags or other systemic issues that need additional investigation/support/collaboration.

(7) Investigation – when QC is unable to make a recommendation for correction/corrective action or recommends additional items to be reviewed in conjunction with a discrepancy, request for further investigation may be initiated.

(8) Other – for all other items not captured in the above seven (7) categories

For Notification related errors, the local Compliance teams will be engaged to make corrections as needed or create new notifications. QC Specialists will be charged to identify and communicate the new issue.

## 3.0 QC Dashboard and Reporting

QC data collected will be used to generate the following dashboard:

(1) SI QC Dashboard

This dashboard will provide data by Inspection method/DIV/MWC/Vendor on:

- # of QC assessments completed, dispatch - in queue, pending
- # of Observation & Non-conformances –by Inspection sections
- # of Missed Compelling abnormal conditions
- # of Notifications recommended for change (Upgrade, Downgrade, Invalid – Cancel, Update/Add FDA)
- Top 5 Non-conformances in the System by issue type
- Top 5 Observations in the System by issue type

(2) Based on stakeholder request, the above data will be customized to fulfill data requests for specific Execution work streams or Vendors in the system at the desired cadence.

## 4.0 QC Quality Outlier Tracking (Quality KPIs)

In addition to conducting QC Assessments, an integral piece of Quality Control program is the on-going tracking and trending of system outliers for inspector work quality. These key metrics are a combination of inspector Productivity, Notification find rate and accuracy.

### 4.1 Intended use of the Outlier Tracker

- Used as guide by the Execution team/Vendors to easily identify which inspectors may be high risk so they can appropriately target and conduct their internal quality verification checks.
- These KPIs have appropriate upper/lower control limits generated using the Interquartile range method and outliers are flagged based on inspector performance versus the overall system.
- The tracker has the capability to filter data for Inspectors by Division/MWC, Vendor for a specific date range.
- The Tracker also shows high level numbers of which FDA combinations are being most impacted by the priority changes from inspector to gatekeeper.

### 4.2 Quality KPI metrics:

- Productivity – average # of inspections/per inspector/per day.
- Overall find rate – average # of net new notifications created per total inspections completed.
- Notification Conversion rate - # of notifications converted to EC/LC over total number of notifications written.
- Notification Upgrade/downgrade rate - # of notifications with priority changed (up/down) over total notifications that have been gatekept and moved to EC/LC status.
- Notification Cancel Rate - # of notifications flagged “invalid” over total notifications that have been gatekept.

## 5.0 Implementation Responsibilities

It is the responsibility of the SI - QC Manager to ensure all QC personnel have read and understand the content of this procedure.

## 6.0 Governing Document

TD-8123S,
GOV-7101S, Enterprise Records and Information Management Standard

## 7.0 Compliance Requirement / Regulatory Commitment

## 8.0 Reference Documents

GO 165
TD-2305M
TD-1001M
ELEC-0341
PSOS-0451
PSOS-0452

## 9.0 Appendices

N/A

## 10.0 Attachments

N/A