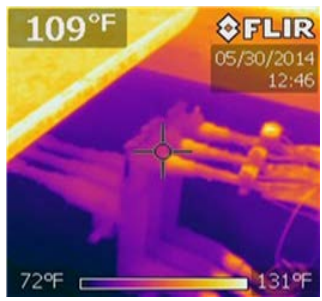
EDPM Manual



Electric Distribution Preventive Maintenance Manual

"Zero In On Safety"

For Reference Use

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Welcome Message

Safety, the driving force behind everything we do at PG&E, is the reason for you picking up this manual today – thank you. A lot of what you'll see in this manual comes directly from the suggestions submitted by our PS&R Compliance Inspector team members.

By inspecting and patrolling our distribution lines and facilities, we stand a greater chance of maintaining the system to be able to deliver safe and reliable service to our customers. Most importantly, in being the best at what we do, we help protect our Communities from harmful incidents.

Use this manual as your everyday guide. It was created for you, by you and your colleagues, and it serves the needs of the people that mean the most to us: The Public, our Communities, and our Employees.

Noteworthy features of this handbook:

- Written from a PS&R user perspective
- Defined Roles & Responsibilities
- Easy to follow step-by-step instructions
- Helpful color pictures
- User friendly reference

Revision History

Version: March 31, 2015 / **PDF File:** May 25, 2015		
Chapter/Tab	**Section Number**	**Change**
All	All	First publication

Version: March 31, 2015 / **PDF File:** May, 26, 2015		
Chapter/Tab	**Section Number**	**Change**
All	N/A	Corrected formatting, copyright, updated chapter TOC pages, updated inside cover content Updated CG and GK for consistency

Version: January 1, 2016 / **PDF File:** January 6, 2016		
Chapter/Tab	**Section Number**	**Change**
All	All	Updated copyright date, corrected TOC as needed, standardized headings as needed
Revision History	New Section	Added revision history section
Map Packages	Section 2 & 3	Added “Printed copies of Pending Third-Party Notifications”
Map Packages	Section 5	Corrected Example 4: Acceptable Line Through image
Map Packages	Section 9, #1 / #2	Corrected map highlighting images
Map Packages	Section 10	Updated all images of P&I log examples
Map Packages	Section 11	Updated all map stamp content & images to reflect the new map stamp standard
Patrols	New Section	Added new Section titled “Performing Patrols” which describes when to highlight/count assets
Inspections	Section 6	Updated list of assets that must be inspected highlighted/not highlighted and counted/not counted
Inspections	Section 7	Updated list of assets that must be inspected highlighted/not highlighted and counted/not counted
Assessments, Notifications, and Forms	Section 7	Updated language to reflect the new 2-photo requirement when cancelling EC Notifications for NCOA conditions

Version: April 1, 2016 / **PDF File:** March 11, 2016		
Chapter/Tab	**Section Number**	**Change**
All	All	Updated copyright date Corrected TOCs as needed Standardized Section headings within chapter, as needed Standardized abbreviations, as needed Added blank pages for future sticker updates
Welcome	n/a	Added Welcome heading
Revision History	n/a	Added new content for this version
Table of Content	n/a	Added new tabs for Overhead Pole Assessments, EDPM Revisions, and EDPM Additions chapters
Safety	n/a	Standardized TOC, adjusted formatting
PG&E's GO165 Program	TOC page	Standardized TOC, formatting, added row "Field Assessments" to Section 3's "GO165 Program Element" table
PG&E's GO165 Program	Section 3 GO165 Program Elements	Added 'Field Assessments" row to GO165 Program Elements table
Roles & Responsibilities – Supervisor	All	Updated formatting, added blank pages
Roles & Responsibilities – Supervisor	Section 5 Review Completed Map Packages	Change to Document Requirements, first bullet: On **each** Daily Log, write your Initials and Date Reviewed in non-erasable ink
Roles & Responsibilities – Specialist	All	Updated formatting, added blank pages
Roles & Responsibilities – Clerical	All	Updated formatting, added blank pages
Roles & Responsibilities – Gatekeeper	All	Updated formatting, added blank pages
Roles & Responsibilities – Compliance Inspector	All	Updated formatting, added blank pages, updated class code. In Sections 3 and 4 added reasons for refresher training and removed refresher testing requirement.

Chapter/Tab	Section Number	Change
Map Packages	All	Updated formatting, added blank pages
Map Packages	Section 1 Definition of a Map Package	#1 added new bullet “Printed copies of Pending Third-Party Notifications (if any)” #2 corrected 4th bullet to “Updated and Signed copies of Pending EC Notifications (if any)”
Map Packages	Section 2 Examples of Overhead Map Package Section 3 Examples of Underground Map Package	#2 added new bullet “Newly written Idle Facility Form with photos”
Map Packages	Section 7 Map Package Process: Supervisor	#2 Updated 3rd bullet “On the Daily Log, use non-erasable ink to write your initials and date reviewed”
Map Packages	Section 8 Map Package Process: Clerical	Updated 4th bullet “Create Map Corrections using ED GIS which creates RW Notifications”
Map Packages	Section 13 Recommended Work Flow Steps for Inspector	Updated bullet with new EC 2-photo requirement “Cancel because all work found complete on arrival (NCOA); Two photos are required for this type of cancelation” Updated bullet with new EC 1-photo requirement “Cancel because field conditions do not meet EC Criteria (NOCR); One photo is required for this type of cancelation”
Preparing for Daily Work	All	Updated formatting, added blank pages
Preparing for Daily Work	Section 5 Job Site Awareness	Added to 3rd bullet • Fill out Daily Tailboard Form **Purpose of a Self-Tailboard:** To Review planned activities and all associated risks/hazards to ensure your personal safety and the safety of others

Chapter/Tab	Section Number	Change
Patrols	All	Entire chapter has been reformatted to be consistent with the Inspections chapter and to support future updates with stickers. Added blank pages.
Patrols	Section 1 What is a Patrol	Added Section 1 “What is a Patrol”. This section was previously located in the GO165 Program chapter.
Patrols	Section 2 When to Patrol	Updated last bullet to define “The start of an inspection or a patrol starts a new inspection or patrol interval that must be completed within the prescribed timeframe.“
Patrols	Section 4 Compliance Inspector Tasks	Updated 6th bullet to the standardized phrase “Completed, dated, and signed inspection maps and logs must be submitted to the PS&R office for review, along with any applicable forms daily, or at next visit to the PS&R office, not to exceed 5 business days.”
Patrols	Section 7 Patrol Documentation Requirements	Updated 3rd paragraph “Refer to “Map Package” in this manual.” Updated 4th paragraph to the standardized phrase “Completed, dated, and signed inspection maps and logs must be submitted to the PS&R office for review, along with any applicable forms daily, or at next visit to the PS&R office, not to exceed 5 business days.”
Inspections	All	Updated formatting, added blank pages
Inspections	Section 2 When to Inspect	Updated last bullet to “The start of an inspection or a patrol starts a new inspection or patrol interval that must be completed within the prescribed timeframe.“
Inspections	Section 5 Identify and Document Field Scenarios	Improved section by placing all 14 scenarios in one section. This section now matches the new compliance inspector training material.
Inspections	Section 6 Performing Overhead Inspections	Updated paragraph 2 to conform with the 360º view of pole as follows: “Begin at ground level to see a 360° view of the pole”
Inspections	Section 7 Performing Underground Inspection	Added content from the new compliance inspector training to “#2 Visually Inspect the Underground Facility”, listed “#(3) Transformers and Sight Glass”

Chapter/Tab	Section Number	Change
Inspection	Section 8 Inspection Documentation Requirements	For consistency and to match the Patrol Chapter content, added **"**A maintenance plan must be available defining when inspections are scheduled to be performed. The plan must cover the next five years for overhead inspections and the next three years for underground inspections."
Cannot Get In & Cannot Locate	All	Updated formatting, added blank pages, corrected abbreviations
Cannot Get In & Cannot Locate	Section 6 How to Record CGI on an EC Form	Adjusted images to fit on one-page
Cannot Get In & Cannot Locate	Section 7 How to Record CL on an EC Form	Adjusted images to fit on one-page
Map Corrections	All	Updated formatting, added blank pages, updated chapter's TOC
Map Corrections	Section 1 Definition of Map Correction	Change Section 1 heading from Purpose to "Definition of Map Correction"
Map Corrections	Section 3 Requirement: Map Correction	Added section. 1. Significant mapping discrepancies are documented on the Map Correction Form. 2. Compliance Inspectors are required to document significant mapping discrepancies.
Map Corrections	Section 4 Compliance Inspector Tasks	Adjusted step # 3 to "Enter the location number, circle the form code "**MC**", and write the condition on the Daily Log"
Minor Work	All	Updated formatting, added blank pages
Minor Work	Section 1 Definition of Minor Work	Updated to list the 3 forms used to document minor work Minor Work is recorded on these forms: 1. Minor Work Tracking Log 2. Updated Pending EC Notification (a.k.a. Shop Paper) 3. New EC Work Form for Capital work
Minor Work	Section 10 Timekeeping	Simplified chart showing 3-ways to track time for 3 different types of minor work

Chapter/Tab	Section Number	Change
Assessments, Notifications, and Forms	All	Updated formatting, added blank pages. Moved all Pole Assessment sections 9 to 13 to a new chapter/tab named “Overhead Pole Assessment”
Assessments, Notifications, and Forms	Section 2 Who Identifies Conditions	Renamed section to match its content
Assessments, Notifications, and Forms	Section 3 Assessment Process	Added bullet #7 “All Regulatory conditions or infractions” to paragraph titled “Factors to Consider When Evaluating an Abnormal Condition”
Assessments, Notifications, and Forms	Section 4 Impact / Probability Chart	Placed chart in its own section for easy reference
Assessments, Notifications, and Forms	Section 5 Degree of Importance Chart	Placed chart in its own section for easy reference
Assessments, Notifications, and Forms	Section 8 Filling out the EC Work Form	Corrected #2, bullet 4 label to ‘Action’
Assessments, Notifications, and Forms	Section 9 Take Photos	Upgraded content to section so it appears on the chapters TOC and to improve flow and readability. No change to content.
Assessments, Notifications, and Forms	Section 10 Addressing Emergencies	Upgraded content to section so it appears on the chapters TOC and to improve flow and readability. No change to content.
Assessments, Notifications, and Forms	Section 11 Vegetation Mgt From vs EC Work Form	Upgraded content to section so it appears on the chapters TOC and to improve flow and readability. No change to content.
Assessments, Notifications, and Forms	Section 12 Pending EC Field Validation	Upgraded content to section so it appears on the chapters TOC and to improve flow and readability. Corrected NCOR to NOCR Emphasized NOCR standard field text verbiage Updated EC cancelation photo requirements
OH Pole Assessment	All	Moved entire content from another chapter to improve flow and readability. Updated formatting, added blank pages.

Chapter/Tab	Section Number	Change
UG Infrared Assessment	All	Updated formatting, added blank pages
UG Infrared Assessment	Section 1 Definition of UG Infrared Assessment	Added definition During an UG Inspection, the Compliance Inspector performs tests using Infrared (IR) Thermography. The results of the IR test are compared to PG&E's published Corrective Maintenance Priorities for Underground (additionally, OH and Live-front) Distribution Facilities Qualitative Analysis Table to determine corrective maintenance priority.
Forms Catalogue	All	Renamed chapter from "Example of Forms" to "Forms Catalogue" Updated formatting, added blank pages, forms are current as of January 1, 2016
Glossary of Terms Definitions	All	Updated formatting, added blank pages Added content describing retired terms
Record Retention	All	Updated formatting, added blank pages
EDPM Revisions	All	New chapter/tab for EDPM revisions
EDPM Additions	All	New chapter/tab for EDPM additions

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Electric Distribution Preventive Maintenance Manual

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Zero in on Safety

Overview

This chapter describes PG&E's safety programs.

Safety is about protecting PG&E facilities, the public and **you*!***

Any time you feel unsafe or identify a possible unsafe situation, immediately proceed to a safe location and contact your supervisor for assistance.

Target Audience

PS&R Personnel

Table of Contents

1 Maintain Compliance Inspector (CI) Qualification

Before conducting PS&R patrols or inspections, PG&E Compliance Inspectors, hiring hall, and contract personnel are required to be current with their journeymen classification and pass PS&R's compliance initial and annual trainings and assessment.

2 Driving and Vehicular Safety

Whether you drive to perform work described in this handbook or to wherever your destination may be, driving should never be considered routine.

Always:

- Walk around your vehicle to visually inspect it.
- Maintain good housekeeping.
- Obey all laws while driving.
- Adhere to PG&E standards while operating vehicle.
- Use the **Smith 5 Keys™** to safe driving:
    1) Aim high in steering.
    2) Get the big picture.
    3) Keep your eyes moving.
    4) Leave yourself an out.
    5) Make sure they see you.
- Follow company guidelines for cell phone use while driving
- Ensure all items in the vehicle are properly stored and secured.
- Park in a safe location and cone vehicle.

See Motor Vehicle Safety Standard (SAFE-1002S) for more information.

3 Cone Your Vehicle

Cone your vehicle when arriving to a job site AND working in a work-protected area:

- Use a minimum of two cones.
- Place the first cone in front of your vehicle.
- Place the second cone in the back of your vehicle.

4 Wear Personal Protective Equipment (PPE)

The PPE was designed for your safety.

You must wear your PPE and any additional safety equipment your supervisor may require when working in the field or performing a specific task.

Table 1. Required PPE

PPE	TYPE	WHEN TO WEAR
Traffic vest	Class II (no-sleeve)	Traffic speed less than 50 mph
	Class III (short-sleeve)	Traffic speed at or above 50 mph Working at night Within all Cal Trans jurisdiction
Gloves	Rubber gloves with approved leather protector (Class 00–Type II)	Working on secondary Up to 300 Volts
	Class II Rubber gloves with protectors	Above 300 Volts
	Long gauntlet leather gloves	As required
Hard hat	PG&E approved	As required
Long sleeve shirt	Flame resistant (FR)	At all times
Long pants	Flame resistant (FR)	At all times
Safety Glasses	PG&E approved	As required
Proper footwear	EH approved leather and above ankle	At all times

5 Aware of Job Site / Work Site / Location Safety Hazards

Safety hazards vary depending on the specific task you are performing. Hazards that impact your work include, but are not limited to:

- Traffic conditions
- Tripping and slipping hazards
- Dangerous animals and insects
- Dangerous surroundings
- Minimum working distances
- Arc flash boundaries
- Environmental Releases (Oil/PCB spills)
- Construction activities

6 Self-Checking (STAR)

Stop, Think, Act, and Review

Self-Checking is an expected standard of performance for all personnel. This process helps you to ensure that the action you are about to take is correct before using any equipment.

Stop

1. Take the time to pause and focus on the task you are about to perform.
2. Eliminate distractions.

Think

1. Think about the task to be performed.
2. Understand what is to be done.
3. Know the expected response and indications of that action.
4. Determine if the task is appropriate for the given conditions.
5. Identify the correct component.
6. Plan the actions to take if the response is not as expected.

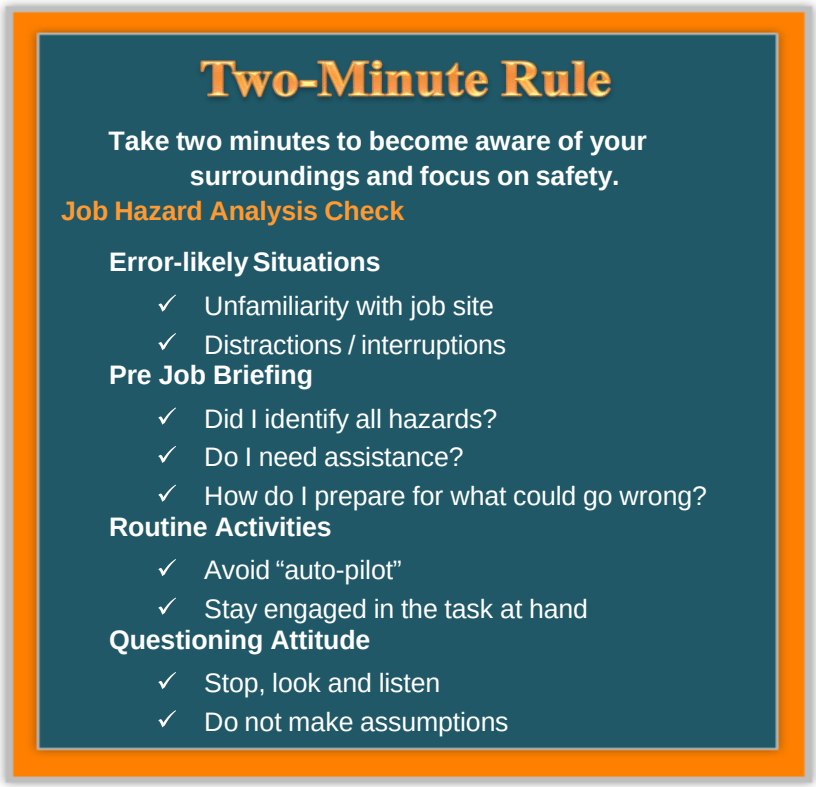
Act

1. Perform the task.

Review

1. Evaluate the results of your action.
2. Verify the correct, expected response.
3. Take pre-planned actions if the response is not as expected.

7 Understand the Two-Minute Rule



8 Use Three-way Communication Method

The three-way communication method helps to ensure that information passing between multiple people is transferred and understood reliably.

Use the three-way communication method in sound-alike systems, high noise areas, and poor reception during radio or telephone communications to:

- Ensure that the correct actions are performed
- Communicate alphanumeric information of facility equipment names (see Table 2, "Phonetic Alphabet" and Table 3, "Phonetic Numeral")

To use the three-way communication method:

1. The **speaker states** (enunciates) a message. Avoid using slang terms.
2. The **listener repeats** back the message to verify understanding.
3. The **speaker confirms** to acknowledge the message heard.

Table 2. Phonetic Alphabet

LETTER	WORD	LETTER	WORD
A	Alpha	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliet	W	Whiskey
K	Kilo	X	X-ray
L	Lima	Y	Yankee
M	Mike	Z	Zulu

Table 3. Phonetic Numeral

NUMBER	PRONOUNCED
0	Zero
1	Wun
2	Too
3	Tree or Thr-ree
4	Fower
5	Fife
6	Siks
7	Seven
8	Ate
9	Niner

9 More Information

- Code of Safe Practices
- Safety & Performance Fundamentals Handbook

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PG&E's GO 165 Program

Overview

This chapter summarizes PG&E's GO 165 Program.

Target Audience

PS&R Personnel

PG&E's GO 165 Program

PG&E's GO 165 Program is focused on safety and reliability.

The GO 165 Program is primarily focused on the identification, assessment, prioritization, and documentation of **compelling abnormal conditions, regulatory conditions, and third party caused infractions that negatively impact safety or reliability.** These conditions are identified during patrols and detailed inspections of PG&E's distribution facilities, and may occur as a result of operational use, degradation, deterioration, environmental changes or third-party actions.

The GO 165 Program does not identify all GO 95 and 128 infractions.

When **new** facilities are **constructed or reconstructed**, they are built to the general orders and per company standards in effect at the time of construction. PG&E's experienced and skilled journey level workers are instructed and trained on the general orders / standards and their work is subject to review to ensure compliance.

Additionally, there are a number of preventive and corrective maintenance programs that are focused on maintaining assets, replacing assets or targeted service reliability improvements, such as the Pole Test & Treat program and line equipment inspections and testing.

This allows the Compliance Inspectors conducting GO 165 patrols and inspections to focus on safety and reliability.

1 About this Manual

This manual is intended to provide guidance and instruction about the requirements of the GO 165 Program in order to perform and document patrols and inspections. This manual also provides guidance about how to assess and document field conditions that meet the criteria for a **compelling abnormal condition or a regulatory condition** that pose a **safety or reliability risk** based on the following:

- The abnormality encountered
- Risk if the condition continues to deteriorate
- Probability and impact of failure and/or exposure
- Impact of exposure to the hazard such as potential for injury, nature of injury, or property damage
- The risk of exposure to the public, workers, or employees
- Regulatory conditions as identified on the back of the EC Work Form

2 Inspector Qualifications & Training

Detailed inspections are an essential element of our overall maintenance program. Compliance Inspectors must complete at least three years of classroom and supervised field training to achieve the Journeyman classification. In addition, Compliance Inspectors receive special training targeted to the maintenance and inspection process with an emphasis on assessing and identifying conditions that would negatively impact safety and reliability. They are further trained to make assessments at each location of the surroundings and environment when determining how to prioritize all of the work necessary.

3 GO 165 Program Elements

GO 165 MAINTENANCE PROGRAM	
Patrols	**Description**: Maintenance activities that include a simple, visual examination of applicable overhead and underground facilities to identify obvious structural problems and hazards. **Standard**: Utility Standard S2301 - Electric Distribution Preventive Maintenance (EDPM) Program for Overhead and Underground Facilities, EDPM Manual. **Owner**: Distribution Operations, Public Safety & Regulatory
Inspections	**Description**: Maintenance activities that include a careful examination of individual components, structures and equipment through visual observation and/or routine diagnostic tests. **Standard**: Utility Standard S2301- Electric Distribution Preventive Maintenance (EDPM) Program for Overhead and Underground Facilities, EDPM Manual **Owner**: Distribution Operations, Public Safety & Regulatory
Field Assessments	**Description:** Field assessments are activities performed by Compliance Inspectors to identify compelling abnormal conditions and/or regulatory conditions that pose a safety or reliability risk or hazard and require action. • **Preventive:** Perform scheduled Patrols and Inspections • **Corrective:** Report compelling abnormal conditions, regulatory conditions and third-party caused infractions **Standard**: Utility Standard S2301 - Electric Distribution Preventive Maintenance (EDPM) Program for Overhead and Underground Facilities, EDPM Manual. **Owner**: Distribution Operations, Public Safety & Regulatory

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Roles and Responsibilities

Supervisor

Overview

This chapter describes the primary roles and responsibilities of the PS&R Supervisor. For specific information, refer to the applicable Standard.

Target Audience

PS&R Personnel

Table of Contents

1 Conduct Safety Tailboards

- Provide PS&R Organization tailboards
- Review performance (YTD safety, productivity results)
- Review recent audit and work verification findings
- Review upcoming required training
- Enter roster into tool (may be assigned to clerk)

---

2 Perform Work Observations

Refer to detailed work observation checklist:
http://obcapp001/PGEObservation/

Focus on:

- Driving Safety
- Keys to Life
- Field Ergonomics
- Public Safety
- Tools and Equipment

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3 Work Verification

- Refer to Bulletin TD 2301B-002 for detailed instructions, i.e. number of required locations per Inspector Work Verification of Electric Distribution Maintenance GO 165 Inspections
- Required Monthly
  - Minimum of 4 OH and 4 UG locations
  - If more than 4 Inspectors performing OH or UG inspections, a minimum of ONE location per Inspector is required

4 Assign/Schedule Maps

- Review your annual plan via your Division Spreadsheet or GO 165 Manager in SAP
- Determine month that map is going to be completed, based on the CPUC Due Date for the Map in excel spreadsheet
- Internal target is to meet 12-month due date, but adjustments can be made as needed, not to exceed the CPUC due date
- When possible, schedule maps with OH and UG work due in the same year to be done at the same time
- Re-schedule maps as appropriate throughout the year
- Refer to CPUC Due Date for maps that need to be addressed in the next 6 weeks, aka “At Risk” (At Risk Date = 6 weeks before CPUC due date) to ensure compliance
- Identify maps to be worked via air patrol
- Manage Urban Wildfire (UWF), Other Wildfire (OWF), Santa Barbara Wildfire (SBWF) maps to be completed by date assigned by Program
- Manage maps with special circumstances (re-inspections, special inspections, etc.)
- Manage annual inspections for vaults/manholes with sump pumps or oil filled equipment
- Provide guidance to staff regarding entry of partial units
- Assign Map Package to Compliance Inspectors

5 Review Completed Map Packages

- Review map to ensure all facilities are highlighted
- Confirm Inspector used non-erasable ink
- Confirm that all locations identified on the map have a corresponding entry on the Daily Log and appropriate form (EC, Map Correction, etc.)
- Confirm actual unit count for inspection maps

- Confirm actual unit count for patrol maps **only** if there is a large variance between plan vs. actual count
- Documentation requirements to confirm the Supervisor has completed the review of the Map and Daily Log(s)
  - On **each** Daily Log, write your Initials and Date Reviewed in non-erasable ink

    Note*: A stamp **does not** fulfill the requirement, but can be used in addition to your wet sign-off*
  - On the Map, write your Initials and the Date you reviewed the Map in non-erasable ink (best practice is next to the stamp on the map)

    Note*: A stamp **does not** fulfill the requirement, but can be used in addition to your wet sign-off*

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6 Review New EC's

- Verify that the location numbers on the map correspond with entries on EC Forms
- Perform a cursory review **only** to check for the following:
  - Look for missing and required information (such as no clearance required box is checked, etc.)
  - Look for any new "Cannot Get In" or "Cannot Locate" EC's that will need to be addressed by the CPUC's Map Due Date for the map (the formal review is completed by the Centralized Gatekeeper).
  - You do **not** need to initial or sign-off on new EC Forms to confirm your cursory review
  - You do **not** need to check for photos, attachments, etc. (The Centralized Gatekeeper performs these tasks.)

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7 Review Updated Pending EC's

- Review photos, any new FDA's/information to verify the change/update is valid and complete
- If completed or canceled, ensure all applicable "complete" or "cancel" boxes are checked

- Write your Initials and the Date you reviewed the updated EC (best practice is to enter in the bottom right corner of page 1 of the EC Notification)
- EC's Created & Completed by Inspectors (Capital Minor Work)
- Confirm location on a map/location on a log/EC Form match
- Review for overall completeness, missing information, etc.
- Check for correct accounting
- Write your Initials and the Date you reviewed the EC Form

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8 Review Other Forms

- Idle Facility (IF) Form: All fields with an * need to be filled out
- Map Corrections Form (MC): All fields except for the "Sub", "Circuit", and "Dept. Ref. Number" should be filled out
- Third Party Notification (TP) Form: All fields except for the PG&E Reference #, customer/utility address, and phone number need to be filled out (clerks will verify the customer/utility and fill out these fields)
- Minor Work Tracking Log: All fields in the header section need to be filled out
- Confirm the "header" section of each form is filled out completely
- Confirm location on a map/location on a log/Form match
- Review for overall "completeness", missing info, etc.
- Write your Initials and the Date you reviewed the form; best practice is to enter in the bottom right corner of each form

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9 Manage CGI/CL EC Notifications

- Refer to Cannot Get In / Cannot Locate section in the manual

10 Manage Third-Party Notifications

- Field calls from customers regarding what they need to do (provide clarification, may need a field check or assign to Inspector, etc.)
- When confirmation from utility or customer that issue has been addressed, perform field check to verify all work was completed and has addressed the issue
- Ensure Third Party Notifications are processed and entered in the system in a timely manner

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11 Gatekeep Idle Facility

- Gatekeep Idle Facility Notifications within 5 business days

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12 Gatekeep Bird Incidents

- Gatekeep Migratory Bird Incident Notifications within 5 business days

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13 Manage Annual Bird Retrofit

- Create one ER Form per funded unit
- Manage ER Notification to completion

---

14 Manage Returned S9 Notifications

- Respond in a timely manner to returned S9's (target is 5 days for Priority B, 15 Days for other priorities)

15 Confirm Maps Logged as Completed

- Confirm that all maps logged as completed in the spreadsheet are physically in the file cabinet per current guidelines (joint responsibility with PS&R Specialist)

---

16 Review and approve Timecards

- PG&E Compliance Inspectors and Contractors will submit timecards
- Review and approve weekly, at minimum
- Ensure all required fields are filled out completely
- Review PM Orders (activity codes, hours charged, etc.)
- Review unit count provided by Inspector for each order
- Follow-Up with Inspectors when potential issues are identified
- Review any Overtime (OT) worked
- Review short text explanation provided for absence/attendance codes
- Review vehicle information (mileage and order number)
- Review PCC charges for validity
- Look at comments related to productivity
- Once reviewed, sign and date and submit to clerk for processing

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17 Monitor Unit Cost & Productivity

- Manage vehicle take-home policy
- Manage “Yard Time” (stocking truck, office time)
- Review weekly reports
- Take notes, identify drivers
- Monitor individual productivity
- Identify best practices; share at team meetings

- Provide coaching
- Identify areas for improvement or training
- Manage maps that may require >1 Inspector (traffic control, drop and pick up, etc.)
- Monitor and manage Overtime
- Monitor and manage PCC charging practices
- Monitor and manage PCF
- Reviewing timecards for mis-charging, etc.
- Review minor work tracking log to see how much time is being spent performing minor work
- Ensure that staff is attending scheduled training. Avoid being charged for missed training.

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18 Review & Approve Concur Expense Reports

- Refer to PG&E's Code of Conduct for Employees
- Refer to PG&E's Expense Policy Guidelines

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19 Attend Conference Calls

- Safety Calls (Required)
- PS&R Calls (Required)
- M&C/Division Specific Calls (As Needed - ORT, Storm, etc.)

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20 Manage CPUC/Other Regulator Data Requests

- Respond in a timely manner to meet requested date from CPUC or other regulator

21 Manage Division CPUC Audits

- Ensure pre-audit activities are completed in a timely manner
- Participate during audit
- Respond to follow-up data requests or questions in a timely manner
- Provide responses to CPUC findings
- Ensure all action items are completed

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22 Manage Division Training

- Ensure that Supervisor, Specialist, Inspectors attend required training

---

23 Onboarding New Hires

- Onboard New Hires such as Successful Bidder, Hiring Hall (HH) or Contractors. This includes acquiring:
  - Verification of valid driver's license
  - LAN ID
  - Access Card
  - Fuel Pin
  - PPE
  - Vehicle
  - Tools & supplies
- Ensure employee attends New Inspector Training
- Provide additional guidance as needed (ride along, 1:1 time, etc.)

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24 Personnel Management

- Manage Vacancies
- Oversee office personnel
- Complete Appraisals and Development Plans for Management Employees
- Manage Vacation & Sick Time
- Provide Recognition
- Provide and support positive discipline
- Ensure Fitness for Duty
- Incident & Near Hit Reporting

25 On-Call/OEC Support

- Support on-call/OEC as needed

This page is reserved for future updates.

This page is reserved for future updates.

Roles and Responsibilities

Specialist

Overview

This chapter describes the primary roles and responsibilities of the PS&R Specialist.

Target Audience

PS&R Personnel

Table of Contents

1 Manage in progress Steady State EC and ER Notifications

NOTE: Bird retrofit notifications are ER notification-type

- Attend the scheduling meeting
- Generate non-design orders
  - Not responsible for adding material components to non-design orders
- Monitor Dates
- Follow up with M&C
- Follow up with Estimating Department
- Follow up with Dependency Management Desk (DPD)
  - Environmental
  - Land Department
  - Permits
  - Joint pole
  - Law department
  - Customer issues
  - Government-relations

NOTE

Specialist IS NOT responsible for acquiring the permit.

Specialist IS responsible for following up with the responsible department.

- Update EC Notification with tracking comments
- Specialist or Supervisor is responsible for gatekeeping idle facilities and bird-related S9 Notifications
- Post pending Tag report for division
  - Post report to SharePoint weekly

  NOTE: Specialist needs to verify that clerical staff is referring to this report for duplicates

2 Manage completed Steady State Tags

- Running reports
- Refer to the weekly “routine” Steady State report as needed
- Follow up with scheduler or coordinator
- Follow up with M&C, GC, and contractors as needed for completed paperwork
    - Completed paperwork can be sent to PS&R office by way of scan, fax, or hardcopy
- Update EC Notification with tracking comments
- The expectation is that completed EC Notifications are closed in SAP to meet cycle time requirement

  NOTE: It is understood that not all ECs are received in the PS&R office in time to meet cycle time requirement.
- Refer to EC closure Job Aid for Supervisor/Specialist requirements for reviewing and signing off on completed or cancelled ECs

---

3 Manage Patrol and Inspection Spreadsheets

- Run report of all completed BF units from SAP or BW

  NOTE: Refer to weekly At Risk Map report as needed
- Compare units in SAP against units in spreadsheet to identify discrepancies
    - Units entered in SAP but not in spreadsheet
    - Units entered in spreadsheet but not in SAP
    - Units entered in SAP do not match units entered in spreadsheet
    - Partial units in SAP do not match partial units entered in spreadsheet
- For all SAP vs. Spreadsheet discrepancies
    - Specialists can correct themselves
    - Assign discrepancy correction to clerical staff
- Complete this task by close of business every Tuesday.

- Specialist is responsible to ensure that all maps for the year are accounted for (may be received quarterly)
- Specialist is responsible to reconcile the spreadsheet to the Map Packages that are in the office
  - If map not received, follow up with RMC or Mapping
- Supervisor/Specialist is required to confirm that all maps logged as completed in the spreadsheet are physically in the file cabinet at least quarterly

---

4 Manage Mis-Charges to PS&R Orders (P&I, EC Notifications)

- Refer to weekly report for orders with charges and no units
- Make corrections to orders as needed
- Follow-up with other workgroups to remove mis-charges as needed

---

5 Manage Completed Past Due Steady State Tags

NOTE: EC Notification may show up on past due report if it is not completed in SAP on the date the report is run.

EC Notification is considered past due if it is completed in the field after the required end date of the Notification.

- Run reports
- Refer to weekly routine past due reports
- Provide explanation for all EC Notifications completed after the required end date
  - Refer to routine report provided weekly via e-mail
  - Enter past due reason per instructions

---

6 Manage Cancelled EC Notifications and Orders

- Manage cancellations at a minimum weekly

7 Provide Daily Direction to Office Staff

- Prioritize, assign, and monitor job duties

---

8 Manage CPUC Data Requests (Supervisor/Specialist)

- Manage data requests

---

9 Monitor Cannot Get In / Cannot Locate EC Notifications (Supervisor/Specialist)

- Run Reports
- Refer to GO 165 Report distributed weekly via email
- Be prepared to discuss on weekly call

---

10 Respond to Questions from Inspectors or other Personnel

- Provide feedback/guidance to employees

---

11 Provide Program-Related Updates

- Inspector Headcount
- P&I package backlog
- High Consequence EC's
- Steady State Past Due
- Missing equipment ID
- CGI/Can't Locate
- Steady State Work Plan
- Bird Retrofit
- Urban Wildfire (UWF)

This page is reserved for future updates.

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Roles and Responsibilities

PS&R Clerk

Overview

This chapter describes the primary roles and responsibilities of PS&R Clerical Employees.

Target Audience

PS&R Personnel

Table of Contents

1 Track Completed Map Packages

- Enter completion information in SAP (ZECM/GO165 Manager)
- Enter completion information in Division P&I tracking spreadsheet

---

2 Process Map Packages

- Create new EC Notifications
  - Pole Test Data Sheets (if provided)
  - IR Data Sheet (if provided)
  - Scan/attach EC Form (front and back) and Map to EC Notification in SAP
  - Attach Photos to EC Notification in SAP
- Process pending, completed, canceled, and updated EC Notifications
  - Scan/attach EC Form (front and back) and Map to EC notification in SAP
  - Attach Photos to EC notification in SAP
- Process Map Correction forms using GIS map correction tool
- Transfer Minor Work Tracking Log to Division File on SharePoint
- Process Third Party Notification Forms
  - Create NON-UTILITY Third Party Notifications in SAP
  - Forward UTILITY Third Party Notifications to Sacramento RMC
- Create Idle Facility (IF) Notifications
- Process Water Discharge Forms
- Refer incomplete paperwork, photos, or required attachments to the PS&R Supervisor or Specialist to be addressed

3 Final Confirmation of Map Packages

- Validate that all map completion information is entered in the Division tracking spreadsheet (Inspector, Date, Actual Units)
- Confirm units have been entered into SAP (ZECM/GO165 Manager)
- Perform final review of Map Package, including filling out the “GO 165 Documentation Pre-file Checklist”
    - Refer incomplete map packages to the PS&R Supervisor or Specialist to be addressed before filing
- File approved Map Package
- File completed and canceled EC Notifications

4 Daily Tasks

- Close completed or cancelled EC Notifications
    - Scan Notifications and maps or photos as needed
- Create new EC Notifications
- Update Notifications from Troublemen
    - Source Side Device, Circuit, Function Location, Plat Map
- Enter missing equipment number in notifications per the weekly routine report
- Create ER Notifications
- Process Bird Incident forms
- Enter timecards for Inspectors and correct time keeping as necessary
- Process purchasing orders (components, creation and goods receipts)
- File Completed and Canceled Notifications from M&C/GC/Contractors
- Support Inspectors with calls/issues/map questions

- Create job packages for estimating (scan/attach documents in SAP as needed)
- Process invoices for traffic control and contractors (tree and non-skid)
- Follow-up on Non-Utility Third Party Notifications

5 Other Tasks

(May not be daily or required by all clerks in all areas)

- Create P&I Map Packages
- Order tools and supplies in SRM
- Make sure that forms are current and available
- San Francisco/ East Bay: Process Network Notifications
- Pull information for CPUC requests
- Pull information for Work Verification Specialists and Supervisors
- Research gate codes for inspectors/ Find in CC&B
- Backfill for other positions
- Pick up and sort mail
- Perform other duties as assigned

This page is reserved for future updates.

This page is reserved for future updates.

Roles and Responsibilities

Centralized Gatekeeper

Overview

This chapter describes the Roles & Responsibilities of the Sr. M&C Compliance Specialists (a.k.a., “Centralized Gatekeeper”).

Target Audience

PS&R Personnel

Table of Contents

1 Background

In 2012, after a review of new EC Notifications Gatekept in SAP by the 19 different divisions for the previous 2 years, it was determined that centralization would improve consistency in the review and validation of new EC's. The process was centralized from 19 divisions (38 Supervisors/Specialists "Gatekeeping" S9's) to 4 new positions called Sr. M&C Compliance Specialists (aka "Centralized Gatekeeper" aka "CG")**.**

2 Qualifications

To be a Centralized Gatekeeper you must meet the following requirements

- Minimum of 5 years of experience in the field performing maintenance, construction and/or restoration at the journey level
- Familiarity with industry standards
- Field experience to understand construction standards vs. GO 165 requirements (safety, reliability, asset life)
- Knowledge and understanding of the EDPM Manual and supporting job aids for GO 165 patrol and inspect activities
- Ability to review pictures of field scenarios and recognize if there is a regulatory or compelling condition that needs to be addressed within Compliance Program timeframe

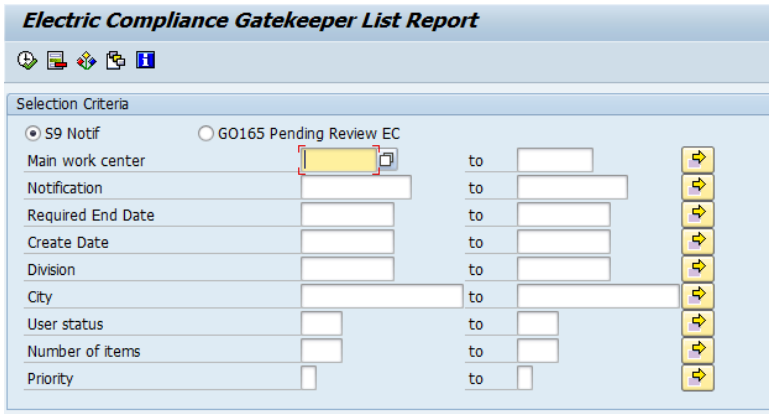
3 Primary Responsibilities of the Centralized Gatekeeper (CG)

- Review new non-emergency Electric Correction (EC) Forms in SAP, including photos, maps, and other information provided by field employees (Compliance Inspectors, T-Men, Crews, others) to analyze the current field condition and evaluate the inspector's conclusions
- Refer to the EDPM Manual and Job Aids for specific guidance about when an EC is valid per the risk/probability matrix, what is compelling or considered regulatory, etc.
- Work in the “Gatekeeper” screen in SAP to perform their validation, including returns and cancelations; field information and specific logic behind each maintenance work type will determine accounting and if the EC Notification will need to be estimated; the CG cannot over-ride these controls in SAP
- Ensure EC Notifications are reviewed within 5 working days of creation/update in the field; this is tracked weekly and reported monthly as a metric
- Return incomplete records to the appropriate field employee or Supervisor in order to properly validate an S9 (missing photos, not enough information, duplicate, or work belongs to another program, etc.); returns are made in the Gatekeeper screen in SAP via an auto-generated email and are tracked via a “return reason code”
- Cancel an S9 because it does not meet the EC criteria (not compelling or regulatory) or because the work belongs to another program (emergency, COE, etc.) or if the notification is a duplicate, etc.; all cancellations are tracked via a “cancellation reason code” in SAP and an email is auto-generated back to the field employee and their Supervisor to ensure that they are notified that the S9 has been canceled
- The CG will make final determination regarding what maintenance work needs to be completed to be compliant based on the current field condition and other variables such as public exposure, geographic location, special permitting requirements, etc.; they will always apply the rules regarding maintenance priority and duration as outlined in the Electric Distribution Preventative Maintenance (EDPM) Manual and Job Aids

- The CG may perform field visits as applicable based on the EC field condition and/or any issues with the information provided from the field
- Attend PS&R/Restoration Stand-Up meetings as often as needed (at minimum, 1 per month)
- Work closely with the Public Safety & Regulatory Supervisor and Analyst; provide feedback on Inspectors, ensure timely notification of short duration ECs, etc.
- Work closely with M&C in regards to short duration EC notifications
- The CG may identify trends, reoccurring problems & issues in a Division, with a workgroup, or with an individual employee. The CG will provide timely feedback to field employees and their Supervisors to ensure clear understanding of decisions, etc.
- Provide back-up support in other divisions for vacations, sick time, or to balance workload

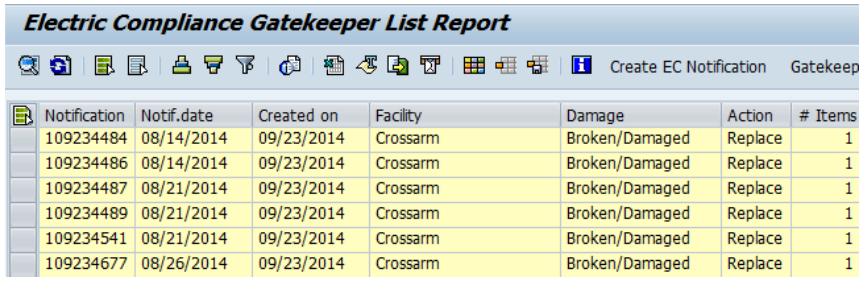
4 Working in the "Gatekeeper" Screen in SAP

- The CG will use the "ZGATEKEEPER" transaction code in SAP to review all new S9 Notifications
  - Only EE's with specific role mapping can access the Gatekeeper screen
- The CG will enter information for the divisions they are responsible for to see only their S9 Notifications



- The CG will see the list of S9 Notifications that are in queue and will drill down into each line item in order to see the details for each S9 (photos and attachments, information from field, FDA's selected, etc.)

List of S9 Notifications

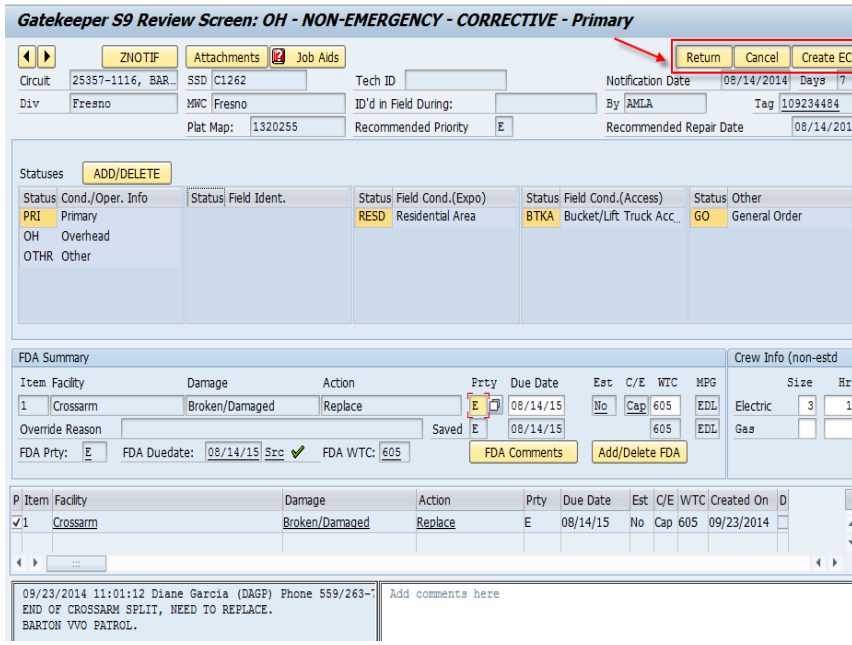


Electric Compliance Gatekeeper List Report

Create EC Notification | Gatekeep

Notification	Notif.date	Created on	Facility	Damage	Action	# Items
109234484	08/14/2014	09/23/2014	Crossarm	Broken/Damaged	Replace	1
109234486	08/14/2014	09/23/2014	Crossarm	Broken/Damaged	Replace	1
109234487	08/21/2014	09/23/2014	Crossarm	Broken/Damaged	Replace	1
109234489	08/21/2014	09/23/2014	Crossarm	Broken/Damaged	Replace	1
109234541	08/21/2014	09/23/2014	Crossarm	Broken/Damaged	Replace	1
109234677	08/26/2014	09/23/2014	Crossarm	Broken/Damaged	Replace	1

Drill down to individual S9 Notification Details:



Gatekeeper S9 Review Screen: OH - NON-EMERGENCY - CORRECTIVE - Primary

ZNOTIF | Attachments | Job Aids | Return | Cancel | Create EC

Circuit 25357-1116, BAR… | SSD C1262 | Tech ID | Notification Date 08/14/2014 | Days 7

Div Fresno | MWC Fresno | ID'd in Field During: | By AMLA | Tag 109234484

Plat Map: 1320255 | Recommended Priority E | Recommended Repair Date 08/14/2015

Statuses | ADD/DELETE

Status	Cond./Oper. Info	Status	Field Ident.	Status	Field Cond.(Expo)	Status	Field Cond.(Access)	Status	Other
PRI	Primary			RESD	Residential Area	BTKA	Bucket/Lift Truck Acc…	GO	General Order
OH	Overhead								
OTHR	Other								

FDA Summary

Item	Facility	Damage	Action	Prty	Due Date	Est	C/E	WTC	MPG
1	Crossarm	Broken/Damaged	Replace	E	08/14/15	No	Cap	605	EDL
Override Reason				Saved E	08/14/15			605	EDL

FDA Prty: E | FDA Duedate: 08/14/15 Src ✔ | FDA WTC: 605 | FDA Comments | Add/Delete FDA

Crew Info (non-estd)

	Size	Hrs
Electric	3	12
Gas		

P	Item	Facility	Damage	Action	Prty	Due Date	Est	C/E	WTC	Created On	D
✓	1	Crossarm	Broken/Damaged	Replace	E	08/14/15	No	Cap	605	09/23/2014	

09/23/2014 11:01:12 Diane Garcia (DAGP) Phone 559/263-7
END OF CROSSARM SPLIT, NEED TO REPLACE.
BARTON VVO PATROL.

Add comments here

- There is "logic" behind every FDA in SAP to determine the default priority and duration for each type of work, accounting (capital/expense), if an Estimate is required, along with other information such as whether the work is considered "minor work", etc.
- During the review of new S9 Notifications, the CG will review the information provided by the field employee (including photos), along with the information for the FDA (Facility/Damage/Action) from the FDA "Logic Matrix" in SAP

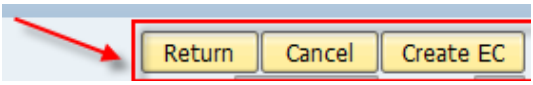
- The Gatekeeper Screen in SAP will not allow the CG to make an erroneous entry such as assigning an expense work type code to capital work, or changing the work type code to one that does not require an estimate when the FDA requires an estimate; the FDA logic matrix and controls are designed to ensure that these types of errors or mis-matches do not occur

- SAP will auto-populate some "user statuses" in the notification based on the information that is provided on the EC Form, such as access and exposure, as well as from information for the FDA's selected. All of these statuses are auto-selected based on the *combination of all of the FDA's identified*. For example, if there are 3 FDA's selected, and all 3 of them can be performed as minor work per the FDA logic matrix, then the "minor work" status (MINR) will be auto-checked. Conversely, if there are 3 FDA's selected and one of them cannot be performed as minor work, the MINR status will not be auto-selected. There are multiple controls such as this in place in the Gatekeeper screen to ensure consistency for all new EC Notifications.

  Note: The CG has the ability to "un-check" these statuses during their review based on the information and photos provided; this is not common, but it is possible – especially when the scope of the work is changing based on additional information that is added to the notification

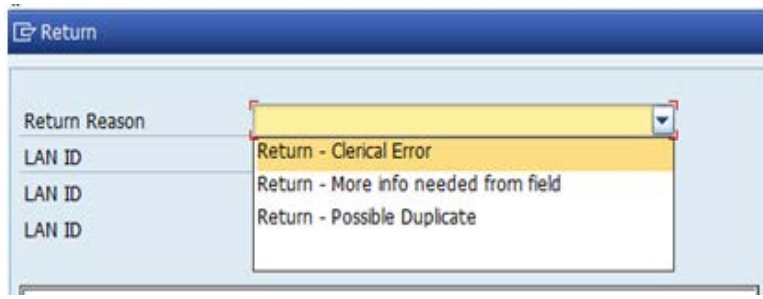
5 Validating the S9 Notification

Once review of the S9 is completed, the CG will make a decision to validate, return, or cancel the S9 by clicking on the appropriate button:

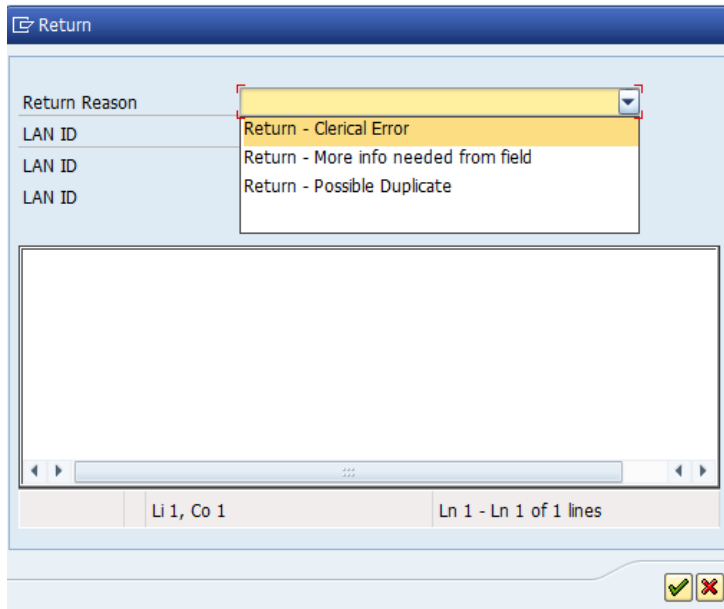


- If all requirements are met and the S9 is valid and complete, the CG will click on the "Create EC" Button; this will "convert" the S9 to an EC notification (same number in SAP)
- If there is information/requirements missing (such as photos, etc.), the CG will click on the "Return" Button and input the following:

- Select appropriate return **reason**

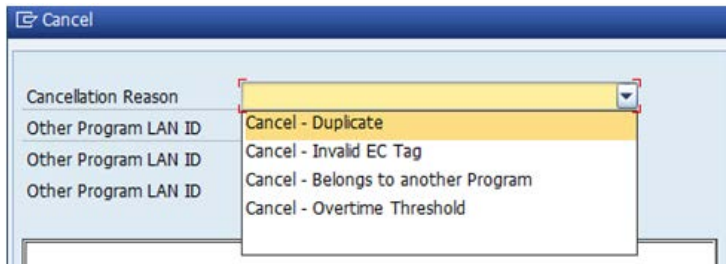


- Enter the LAN ID of the Restoration or PS&R Supervisor who is responsible to ensure the issue is addressed
- Enter additional LAN ID's as needed (PS&R Specialist, Manager, etc.)
- Enter commentary as to what is missing
- Click the green check, which will generate an email to the LAN ID's entered, and by default, the creator and identifier of the EC (who filled out the EC in the field, who created the EC in SAP)

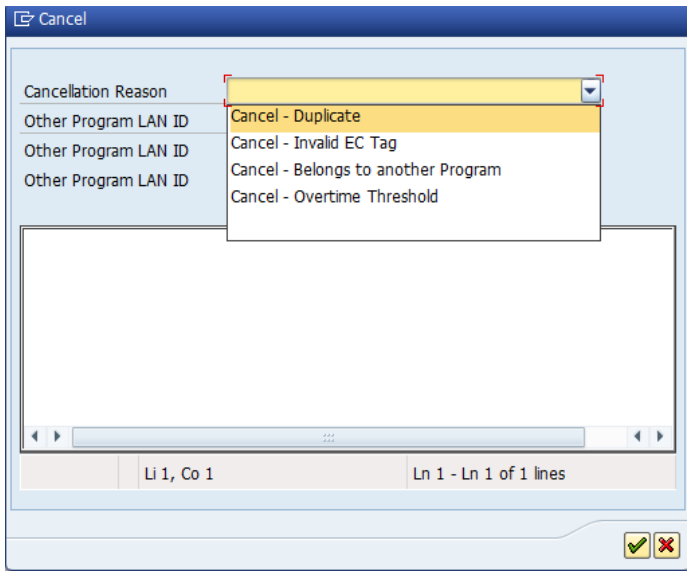


- The returned S9's will stay in queue, and are color-coded as "pink"
- Once the issue is resolved (photos are attached, etc.), the CG will validate the S9 (click on create EC or cancel the S9)

- If the S9 is not valid (not compelling or regulatory, belongs to another program, etc.,), the CG will click on the “Cancel” Button and input the following:
  - Select appropriate cancel **reason**



  - Enter the LAN ID of the Restoration or PS&R Supervisor who is responsible for overseeing returns and cancelations
  - Enter additional LAN ID’s as needed (PS&R Specialist, Manager, etc.)
  - Enter commentary as to why the S9 is being canceled
  - Click the green check, which will generate an email to the LAN ID’s entered, and by default, to the creator and identifier of the EC (who filled out the EC in the field, who created the EC in SAP)



6 Common Gatekeeper Scenarios

Gatekeeping Tags with No Issues

1. If no issues with S9 (does not have to be returned), Cycle time to validate = 5 business days *(Note: tags returned for more/missing information are excluded from CG cycle time metric)*
2. If the S9 is valid, Gatekeeper will validate and make adjustments/ corrections to FDA's, etc., per the requirements of the EDPM Manual and Inspector Job Aids, as well as the supporting photos, commentary, and recommendation from the field.
3. If the PS&R Supervisor has recommended *their own*, shorter duration or priority, Gatekeeper will validate with that priority and duration.
   Note: PS&R Supervisor must provide commentary to support the shorter duration. CG will contact the PS&R Supervisor if they need more information
4. All "known" priority B's will be Gatekept first
5. All tags to locate/inspect facilities created via GO 165 Inspection will be set to meet the 12+3 required due date for the map.

   Note: CG will send an email to PS&R Supervisor notifying them when a short cycle tag has been created
6. If S9 is not valid (not compelling or regulatory), S9 will be **CANCELED**

Note: In any scenario, the Gatekeeper may request input from their peers, the PS&R Supervisor, or the PS&R Managers to gain concurrence around the validity, priority, or duration of a tag

7 Return & Cancelation Process – S9's generated by PS&R & M&C

If the S9 has missing or incomplete information, it will be cancelled or returned to the PS&R Supervisor

1. If photos or missing information is not provided by Day 5, Gatekeeper will **RETURN** to the PS&R Supervisor
   a. PS&R needs to provide the missing photos, information, etc.
   b. PS&R will send an email to the CG letting them know the missing info has been attached or added
   c. Gatekeeper will **VALIDATE** S9 with applicable comments

2. If S9 created in error and should have been emergency (per oil spill per matrix, reference to temp repair/OIS, etc.), Gatekeeper will **RETURN** to PS&R Supervisor
   a. PS&R needs to confirm that an emergency tag has been created (or forwarded to M&C to create)
   b. PS&R will send an email to the CG letting them know the emergency tag has been created
   c. Gatekeeper will **CANCEL** S9 with applicable comments

3. If S9 created in error and belongs to another program (Bird Retrofit/ER Notif, Idle Facility, COE, etc.), Gatekeeper will **RETURN** to PS&R Supervisor
   a. PS&R needs to forward information to the appropriate Program Manager or create the appropriate notification type
   b. PS&R will send an email to the CG letting them know the issue has been addressed
   c. Gatekeeper will **CANCEL** S9 with applicable comments

4. If S9 is for a streetlight burnout or day burner
   a. CG will call T-Man Dispatch
   b. CG will **CANCEL** S9

8 Return & Cancelation Process – S9's generated by Restoration

1. If photos or missing information are not provided by Day 5, Gatekeeper will **RETURN** to the Restoration Supervisor

2. If S9 created in error and should have been emergency (per oil spill per matrix, reference to temp repair/OIS, etc.), Gatekeeper will **RETURN** to Restoration Supervisor
   a. Restoration needs to confirm that an emergency tag has been created (or forwarded to M&C to create)
   b. Restoration Supervisor will send an email to the CG letting them know the emergency tag has been created
   c. Gatekeeper will **CANCEL** S9 with applicable commentary

3. If S9 created in error and belongs to another program (COE, etc.), Gatekeeper will **RETURN** to Restoration Supervisor
   a. Restoration needs to forward information to the appropriate Program Manager or DO
   b. Restoration will send an email to the CG letting them know the issue has been resolved
   c. Gatekeeper will **CANCEL** S9 with applicable commentary

4. If S9 is for a streetlight burnout or day burner
   a. CG will call Restoration Dispatch
   b. CG will **CANCEL** S9

9 Common Issues with S9's that will result in a RETURN

- No Photos attached per requirements (refer to photo job aid for requirements)
- Photos attached are not acceptable; examples:
  - No close up of the issue in the field
  - Zoomed in too close to map
  - Too far away from map
- No comments to support a request for a short cycle tag
- No comments at all, issue is unclear from photos provided
- Photos are unclear or out of focus
- Front AND Back of EC form are not scanned/attached
- Missing or incomplete Pole Test Data sheet for pole replacements tags
- Tag should have been created as an emergency
- Tag should have been created as an IF for idle facility investigation
- Tag should have been created as an ER for bird retrofit
- Tag is for an oil issue, cannot confirm if Environmental was contacted, etc.
- Tag looks to be a duplicate
- Tag not linked to pole record (if not available, clerk should enter comment in the notification: No pole ID found in DART/GIS)

---

10 Link to Photo Requirement Job Aid CLICK HERE

- Refer to the SharePoint site to access the current photo requirement job aid for Inspectors

11 Examples of "Bad" Photos of Maps

Example 1:

- The Inspector should take the photo with a construction crew in mind: What kind of map would they have wanted to see – when working on a crew – in order to make it out to the field and be able to confirm they are at the right location? That's the photo they need to take.
- This photo does not include any spatial reference (streets, equipment, etc.) and is not an acceptable map for us to provide to the field.

Example 2:

- Example of a picture of the map taken to accompany an EC notification: Clearly, M&C would not be able to easily see which pole the tag was written for, can't see much of the text on the map or the location # that corresponds to the EC Form and log.
- This is not an acceptable map for us to provide to the field.

12 Example of a “Good” Photo of a Map

Example of a good photo of a map; the crew can clearly see the location of the EC, as well as additional information of the area around that location.

This page is reserved for future updates.

This page is reserved for future updates.

Roles & Responsibilities

Compliance Inspector

Overview

This chapter describes the training requirements for Compliance Inspectors.

Target Audience

PS&R Compliance Inspectors

Table of Contents

1 Training Offerings Overview

The following training modules and courses are offered:

- New Compliance Inspector Training – Provided as needed
- Compliance Inspector Refresher Training – Provided Annually

  Note: In some cases, refresher training may be deferred by PS&R Leadership due to updates to the EDPM Manual, etc.

---

2 ELEC-1000 New Electric Compliance Inspector Training

This module is provided for employees new to the Compliance Inspector position. The course provides both the procedures and the standards for patrols and inspections.

Upon successful completion of this course and the test, the employee is qualified to perform patrols and inspections.

Course Code:

- ELEC-1000 New Electric Compliance Inspector

---

3 Compliance Inspector Refresher

This module is provided annually for current Compliance Inspectors and provides an overview of existing training and specific information about any changes to the Patrol and Inspection process and other content from audit findings, work verification results, company initiatives, etc., selected by PS&R leadership as needed.

Note: In some cases, refresher training may be deferred by PS&R Leadership due to updates to the EDPM Manual, etc.

Course Codes:

- Refresher Training – TECH 0041

4 GO 165 Related Testing Process

The New Inspector Training module includes a test.

The test is “open-book” and students may use any class material to complete the test.

The test is administered after completion of the training and consists of a series of multiple choice questions. The student must achieve a minimum score in order to receive credit for successful completion.

This page is reserved for future updates.

Map Package

Overview

This chapter describes when and how a Compliance Inspector evaluates, uses, and records patrol and inspection results in the Map Package. Understanding the content in your Map Package is the first step in determining safe driving routes and helps ensure that Pending EC Notifications are reviewed.

This chapter also provides requirements and process steps for PS&R Supervisors and clerical staff assigned to support PS&R divisions.

Before You Start

- Read the Safety chapter of this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.

Forms You Need

- Map Package

Table of Contents

1 Definition of a Map Package

A Map Package is the official collection of material used by a Compliance Inspector to guide, document, and record in-field assessments of Electric Distribution facilities during patrols or inspections.

A Map Package contains the following items:

1. The original Map Package consists of the following:
    - Printed copy of a Plat Map or GIS Map
    - Pre-printed copy of Daily Logs
    - Printed copies of Pending EC Notifications (if any)
    - Printed copies of Pending Idle Facility Notifications (if any)
    - Printed copies of Pending Third-Party Notifications (if any)

2. A completed Map Package consists of the following:
    - Printed copy of the Plat Map or GIS Map with Electric Distribution facilities highlighted
    - Annotated and Signed Daily Logs
    - Completed and Signed Map Stamp
    - Updated and Signed copies of Pending EC (if any)
    - Other forms written by the Compliance Inspector (if any)
    - Photo images of conditions being reported (if any)

2 Examples of Overhead Map Package

1. Contents of Original Map Package:

    - Printed copy of the Plat Map or GIS Map
    - Pre-printed Daily Logs
    - Printed copies of Pending EC Notifications (if any)
    - Printed copies of Pending Idle Facilities Notifications (if any)
    - Printed copies of Pending Third-Party Notifications (if any)

2. Contents of Completed Map Package may include:

    - Highlighted Plat Map or GIS Map
    - Completed and Signed/Dated Daily Logs
    - Completed and Signed Map Stamp
    - Updated Pending EC Notifications to include updating, changing a priority, completing, or canceling the notification
    - Newly written Minor Work Forms
    - Newly written OH EC Form with photos
    - Newly written Pole Inspection Test Report with photos
    - Newly written OH Vegetation Form with photos
    - Newly written Map Correction Form with photos
    - Newly written Third-Party Utility Form with photos
    - Newly written Third-Party Non-Utility Form with photos
    - Newly written Bird Incident Form with photos
    - Newly written Idle Facility Form with photos

3 Examples of Underground Map Package

1. Contents of Original Map Package:

    - Printed copy of the Plat Map or GIS Map
    - Pre-printed Daily Logs
    - Printed copies of Pending EC Notification (if any)
    - Printed copies of Pending Idle Facilities Notifications (if any)
    - Printed copies of Pending Third-Party Notifications (if any)

2. Contents of Completed Map Package may include:

    - Highlighted Plat Map or GIS Map
    - Completed and Signed/Dated Daily Logs
    - Completed and Signed Map Stamp
    - Updated Pending EC Notifications to include updating, changing a priority, completing, or canceling the notification
    - Newly written Minor Work Forms
    - Newly written UG EC Form with photos
    - Newly written Infrared Data Sheet Form
    - Newly written Vault Discharge Form
    - Newly written Map Correction Form with photos
    - Newly written Third-Party Utility Form with photos
    - Newly written Third-Party Non-Utility Form with photos
    - Newly written Idle Facility Form with photos

4 Examples of Forms with Notifications Types

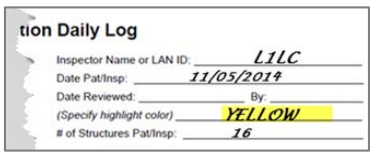
TYPE	FORM NAME	NOTIFICATION NAME
OH	Overhead EC Form	EC Notification
OH	Pole Inspection Test Report	Attaches to EC Notification
OH	Bird Incident Form	Attaches to EC Notification Entered in Bird Incident Tracking tool
OH	Electric Vegetation Form	EC Veg Notification
UG	Underground EC Form	EC Notification
UG	Infrared Data Sheet	Attaches to EC Notification
UG	Vault Water Discharge Form	N/A (Email)
OH/UG	Map Correction Form	RW Map Corrections
OH/UG	Idle Facility Form	IF Notification
OH/UG	Third-Party Utility Form	TP Utility Notification
OH/UG	Third-Party Non-Utility Form	TP Non-Utility Notification
OH/UG	Minor Work	(1) Minor Work # of locations are added to the map's PM Order in SAP (2) Minor Work tasks are added to the map's PR Notification
OH/UG	Daily Log	N/A (Daily Log retained with Map Pkg)
OH/UG	Highlighted and Stamped Plat Map or GIS Map	N/A (Map retained with Map Pkg) (1) Map Start Date and Map Completed Date is added to the map's PR Notification (2) The inspector's Lan-ID is added to the map's PR Notification (3) Final unit count is added to the map's PM Order number. (4) The PS&R Division Spreadsheet is updated.
N/A	Timecard	Enter time worked on map in PM Order

5 Requirements for a Map Package

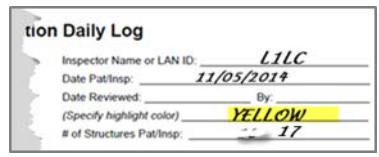
Each Map Package contains confidential information about PG&E's Electrical Distribution system. It may also contain information about PG&E's customers such as names, addresses, and gate codes.

1. It is a requirement for the Compliance Inspector to maintain physical custody of the Map Package while the Map Package is assigned to him/her.
2. When the Compliance Inspector is away from vehicle or out of sight, or during non-working hours leaves his/her vehicle unattended, the Map Package must be stowed and stored in a locked compartment.
3. The storage, security, and retention of the Map Package are governed by PG&E's Employee Code of Conduct Policy and the California Public Utilities Commission (CPUC).
4. The Map Stamp is required on Plat Map or GIS Map.
5. The Map Package should be completed prior to the map's due date.
6. Use non-erasable ink. If an error is made, white out is not acceptable. Instead, draw a line through the original information, write your initials and the date, and then write the correct information. Do not black it out completely.

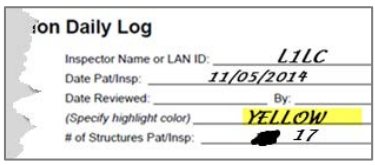
Example 1: Original



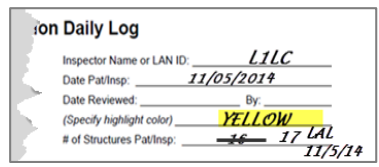
Example 2: Not Acceptable White Out



Example 3: Not Acceptable Blacked Out



Example 4: Acceptable Line Through



6 Map Package Process: Overview

1. **Annually**

   A Map Package is created for each map that needs to be patrolled or inspected in a calendar year. A calendar year is January to December of the same year.

   The quantity of maps varies slightly year by year. Generally, about 45,000 maps are patrolled or inspected each year.

2. **Assigning the Map Package**

   The division's PS&R Supervisor, or designee, assigns an individual Map Package to a Compliance Inspector.

   Only one Compliance Inspector may work an assigned Map Package at a time.

   - For exceptions, contact your PS&R Supervisor
   - Exceptions include vaults, doubling up for pick-up, etc.

3. **Reviewing the Map Package**

   The original Map Package (the printed Map, Daily Logs, and Pending EC Notifications) represent legal documentation of the facilities on the map which have been scheduled to be patrolled or inspected in the current calendar year.

4. **Working the Map**

   During patrols and inspections, Compliance Inspectors will highlight the map's facilities and overhead conductors and may write other forms (ECs, Third-Party Utility, Idle Facilities, etc.) for the Map Package.

5. **After Completing the Map Package**

   When the Compliance Inspector completes the map, the entire content of the Map Package represents legal proof that PG&E has confirmed that the specific facilities on the map were patrolled or inspected.

   Any additional forms written by the Compliance Inspector are also considered legal documentation supporting the assessment of the facility by the Compliance Inspector.

6. **Data Entry**

   All forms that become Notifications require data entry of forms into the system of record, SAP, by PG&E's clerical staff.

   Information from other forms (Minor Work Tracking, Water Discharge, etc.) is recorded per each form's requirements by PG&E's clerical staff.

7. **Gatekeeper Review**

   New EC forms are reviewed by the Centralized Gatekeepers in SAP to ensure accuracy and consistency.

   - Exception: EC Forms that are created & completed in SAP upon entry (same-day work) are not reviewed by the Centralized Gatekeeper

8. **Supervisor Review & Approval**

   The content of the Map Package is required to be reviewed by the PS&R Supervisor. Once the PS&R Supervisor approves the Map Package, the facilities may be audited internally by resources such as Work Verification Specialist or externally by sources such as the CPUC.

7 Map Package Process: Supervisor

The Supervisor is required to review and approve Map Packages.

Note: The Supervisor may assign a designee for vacation relief, etc.

1. The Supervisor shall perform the following activities:

    - Review the Map Package for completeness and accuracy
    - Return the Map Package to a Compliance Inspector for any re-work
    - Confirm that all facilities on the map are highlighted
    - Verify that each location number on the map has a corresponding entry on the Daily Log
    - Verify that each location number on the map has a corresponding entry on all forms (EC, TP, MC, etc.)
    - Confirm that the Compliance Inspector used non-erasable ink to fill out log and forms
    - Review Minor Work
    - Reassign the Map Package to a Compliance Inspector if any re-work (missing units, missing photos, etc.) prevents you from approving the Map and/or the contents of the Map Package

2. The Supervisor shall confirm that the Map and Daily Log(s) have been reviewed and approved by the following activities:

    - A wet sign-off is required
    - Do not use a signature stamp
    - On the Daily Log, use non-erasable ink to write your initials and date reviewed
    - On the Map, use non-erasable ink to write your initials and the date reviewed (best practice is to place it next to the stamp on the map)

3. EC Forms: The Supervisor or Designee's review of newly written EC Forms is limited to the following activities:
    - Verify that each location number on the map has a corresponding entry on EC Forms
    - Perform a cursory review **only** to check for the following:
        - Look for missing and required information such as no clearance required box checked, etc.
        - Look for any new "Cannot Get In" or "Cannot Locate" EC's that will need to be addressed by the CPUC map due date for the map (formal review is completed by the Centralized Gatekeeper)
    - You do **not** need to initial or sign-off on new EC Forms to confirm your cursory review
        - Exception: EC Forms that are created/completed (same-day) must be reviewed and signed-off by the PS&R Supervisor or Designee
    - You do **not** need to check for photos, attachments, etc. (Centralized Gatekeeper performs these tasks)

4. Pending EC Notifications: The Supervisor shall review newly updated Pending EC Notifications as defined in the following activities:
    - Review any updates to Pending EC Notifications in the Map Package
    - Review photos, new FDA's, and other information to verify the change/update is valid and complete
    - If completed or cancelled, ensure all applicable "complete" or "cancel" boxes are checked
    - Use non-erasable ink to write your Initials and the date reviewed on the updated pending EC Notification (best practice is to write it in the bottom right corner of page 1 of the EC Notification)

5. New EC Forms that are created & completed by the Inspector (capital minor work, etc.): The Supervisor shall review these as defined in the following activities:

    - Review for overall completeness, looking for missing information or other inaccuracies
    - Confirm the correct accounting/PM Order was entered in the EC Form
    - Confirm that the location number on the Map, Daily Log, and the Pending EC Notification match
    - Ensure all applicable “complete” or “cancel” boxes are checked (Form and individual FDA’s)
    - Use non-erasable ink to write your LAN ID and the Review Date on the EC Form (bottom right corner)

6. New Third Party, Idle Facility, Map Corrections, Minor Work Forms: The Supervisor shall review these as defined in the following activities:

    - Confirm that the location number on the Map, Daily Log, and the new Form(s) match
    - Confirm the “header” section of each form is filled out completely and accurately
    - Third Party Forms: All fields except for the PG&E Reference #, customer/utility address, and phone number need to be filled out (clerks will verify the customer/utility and fill out these fields)
    - Map Correction Form: All fields except for the “Sub”, “Circuit”, and “Dept. Ref. Number” should be filled out
    - Minor Work Tracking Log: All fields in the header section need to be filled out
    - Review for overall completeness, looking for missing information, or other inaccuracies
    - Use non-erasable ink to write your Initials and the Review Date in the bottom right corner of each form

8

Map Package Process: Clerical

Key requirements and process activities for clerical supporting PS&R divisions are listed below:

- Input new EC Forms into SAP
  - Scan/attach front and back of EC form
  - Attach photos: Check for photo quality
- Update Pending EC Notifications in SAP
- Create Third Party Non-Utility Notifications in SAP
- Create Map Corrections using ED GIS which creates RW Notifications
- Create IF Notifications in SAP
- Scan/attach copy of plat map to new EC's, IF's, Non-Utility TP's, and RW's
- Scan/attach photos to applicable notification in SAP
- Enter minor work into tracking log on SharePoint
- Ensure new EC paper forms stay in the completed Map Package
- If something doesn't look right, ask the PS&R Supervisor/Specialist
- Final step will be to fill out the pre-file checklist GO 165 Documentation Pre-File Checklist and file complete Map Package

Clerical Summary Table

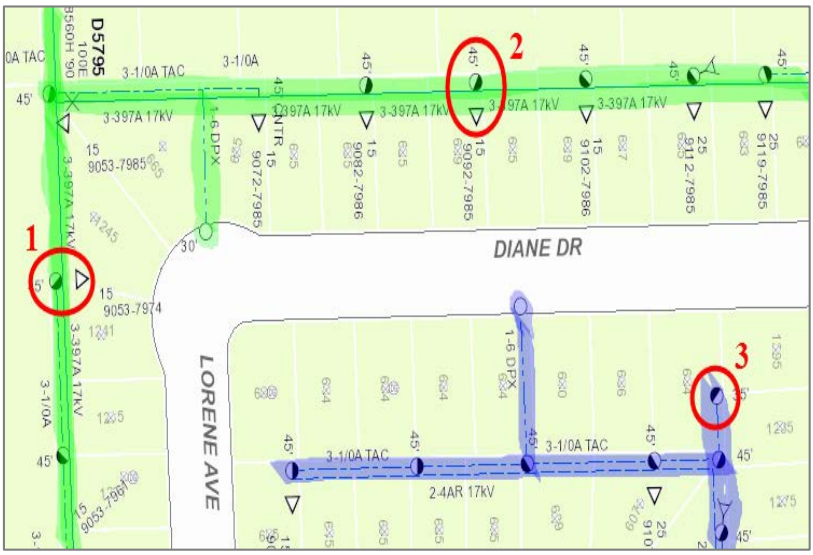
What's in the Completed P&I Package?	What to Do
Highlighted Plat Map	Scan/make copies for new EC's, Map Changes, etc.
P&I Log	Enter the notification # on the log
EC Forms	Create new EC's in SAP (scan/attach front and back of EC Form and photos
Pending EC's	Update pending EC's in SAP (attach photos as applicable)
Minor Work Tracking Log	Enter minor work in clerical tracking log on the SharePoint
Third Party Notification Forms	Process notifications (create TP or Word Doc)
Map Discrepancy Log	Create RW notification
Idle Facility (IF) Forms	Create IF notifications in SAP
Photographs	Attach to applicable form in SAP; check for quality
Other Forms (water discharge, etc.)	Process as needed

9 How to Record Work on a Map

1. As you patrol or inspect facilities, use a **highlighter** to record the patrolled or inspected OH conductor and facilities.

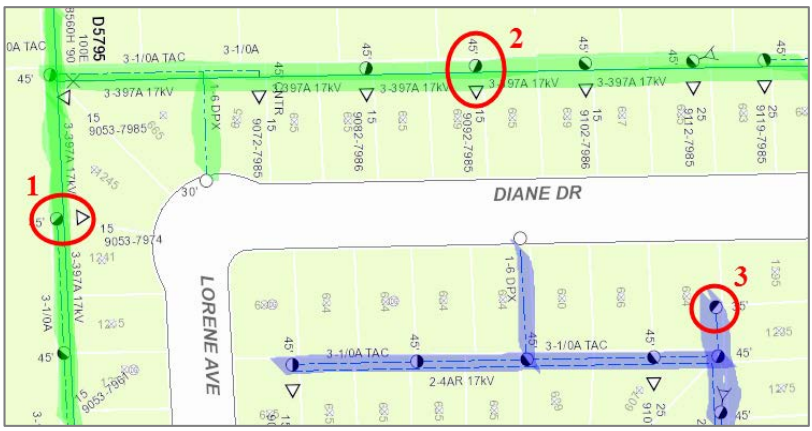
2. Use **one** highlighter color per day.

Example



3. Use the **location number** to show where an abnormal condition was found during your patrol or inspection at an individual facility.

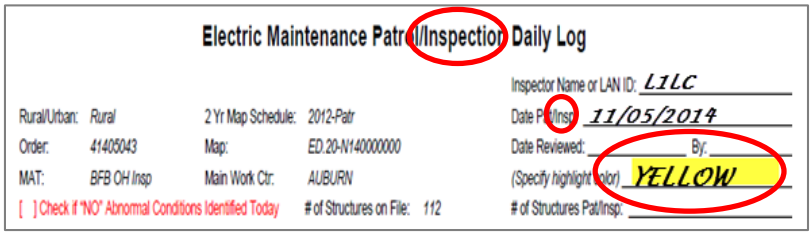
Example



10 How to Record Work on the Daily Log

1. For each day, use a new Daily Log
    - Circle Patrol or Inspection in the header
    - Write your Lan-ID
    - Circle Pat or Insp then Write today's date
    - Highlight the color you are using today
    - Write the name of color you are using today

Example



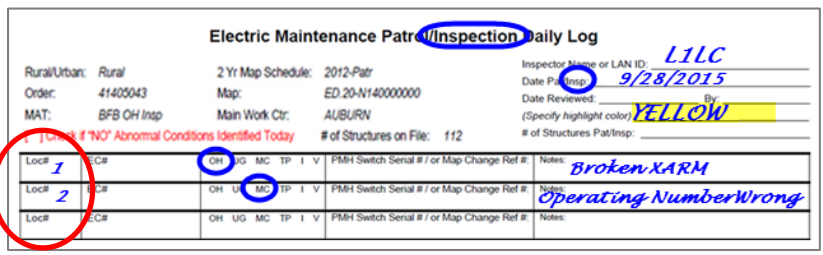
2. IF you have assessed abnormal conditions today,

   THEN (1) Write the location number on the map

   (2) Write the location number on today's Daily Log

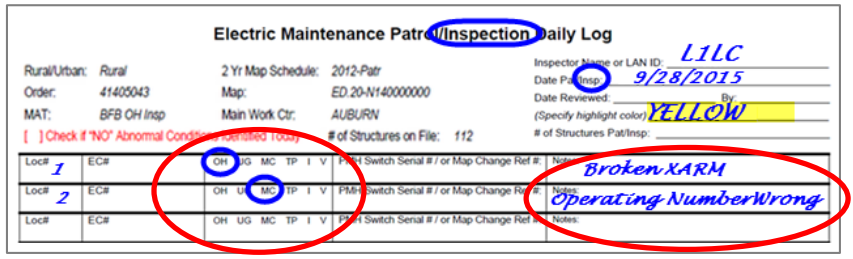
Note: Sequentially number the conditions on the map and Daily Log. For maps that are worked over multiple days, continue numbering conditions so that each location has a unique **location number**.

Example



3. Summarize information about the condition for each location number.

   Example: Circle Code for the form you have written



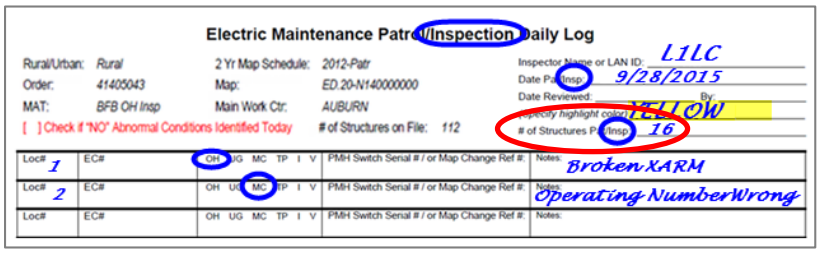
4. IF there are **no conditions** for today

   THEN Write an ✓ or X in the box labeled “Check if ‘NO” Abnormal Conditions Identified Today”

   Example

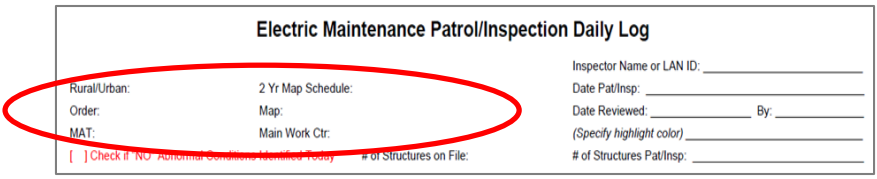
5. For each day’s Daily Log, write the number of structures that were patrolled or inspected.

   Example



6. Extra Daily Logs: In your Map Package, you are provided with pre-populated information on the Daily Log forms. If you run out of these forms, use blank Daily Log forms. Remember to complete the top section of the blank Daily Log.

Example of Blank Log



Electric Maintenance Patrol/Inspection Daily Log

Inspector Name or LAN ID: _____

Rural/Urban: 2 Yr Map Schedule: Date Pat/Insp: _____

Order: Map: Date Reviewed: _____ By: _____

MAT: Main Work Ctr: *(Specify highlight color)* _____

[ ] Check if "NO" Abnormal Conditions Identified Today # of Structures on File: # of Structures Pat/Insp: _____

11 How to Record Work on the Map Stamp

When the Compliance Inspector is assigned a map, the Map Stamp must be completed using non-erasable ink. Continue updating daily information each day you work the map.

Enter the required information:

(1) WORK TYPE: Check the box to indicate the type of map being worked. One of these boxes must be checked.

- ☐ OH INSPECT
- ☐ OH PATROL
- ☐ UG INSPECT
- ☐ UG PATROL

(2) DATE: Use format MM/DD/YY. This is the date the Compliance Inspector worked the map.

(3) # POLES/ENCL: This is the number of patrolled or inspected facilities (# POLES/Number of Poles or # ENCL/Number of Enclosures). Indicate the daily count of facilities patrolled or inspected.

(4) HOURS: Enter the total number of hours worked for each DATE listed.

(5) TOTAL:

- Sum the # of POLES or # of ENCL.
- Sum the number of hours worked columns.

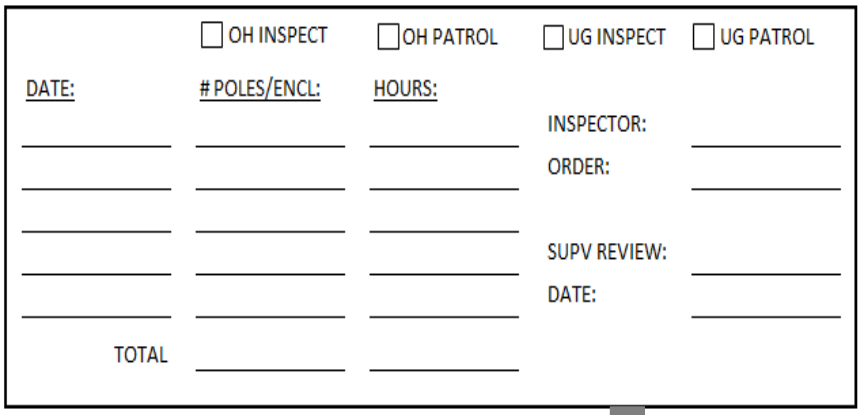
(6) INSPECTOR: Write your Lan-id.

(7) ORDER: Write the PM Order number for this map.

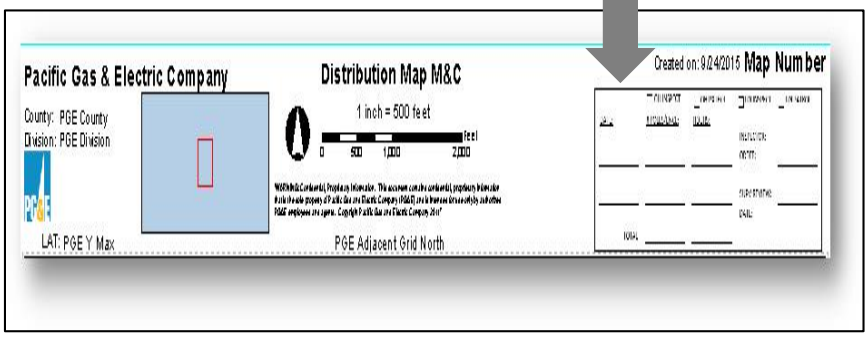
(8) SUPV REVIEW: After the Supervisor reviews the completed map, the Supervisor enters his/her Lan-ID.

(9) DATE: After the Supervisor reviews the completed map, the Supervisor writes the date of the review. Use the MM/DD/YY format.

Example: Map Stamp



Example: Map Stamp on Printed Map



12 When to Turn in the Map Package (Inspector)

IF the Map is **completed, including ECs written for CGI or CL,**
THEN turn in the Map Package to the local PS&R office daily, or on your next office visit, not to exceed five (5) business days

IF you plan to be off work for more than one (1) week
THEN (1) Check in with your PS&R Supervisor
(2) Turn in the Map Package to the PS&R office

---

13 Recommended Work Flow Steps for Inspector

1. Get your assigned Map Package from the division's PS&R Supervisor or designee.

2. Review the Map Package
   - Review the Map Package to become familiar with its contents and to determine where the map's facilities are located
   - Evaluate terrain, agriculture growing seasons, holidays, road conditions, weather, other environmental conditions that may pose safety hazards or delay working the map by its due date
   - Make every effort to improve productivity by planning routes and working similar or adjacent maps together

3. Work your Map
   - Highlight facilities and OH conductors
   - Complete the Daily Log
   - Create new EC Forms
     - Take Photos as required

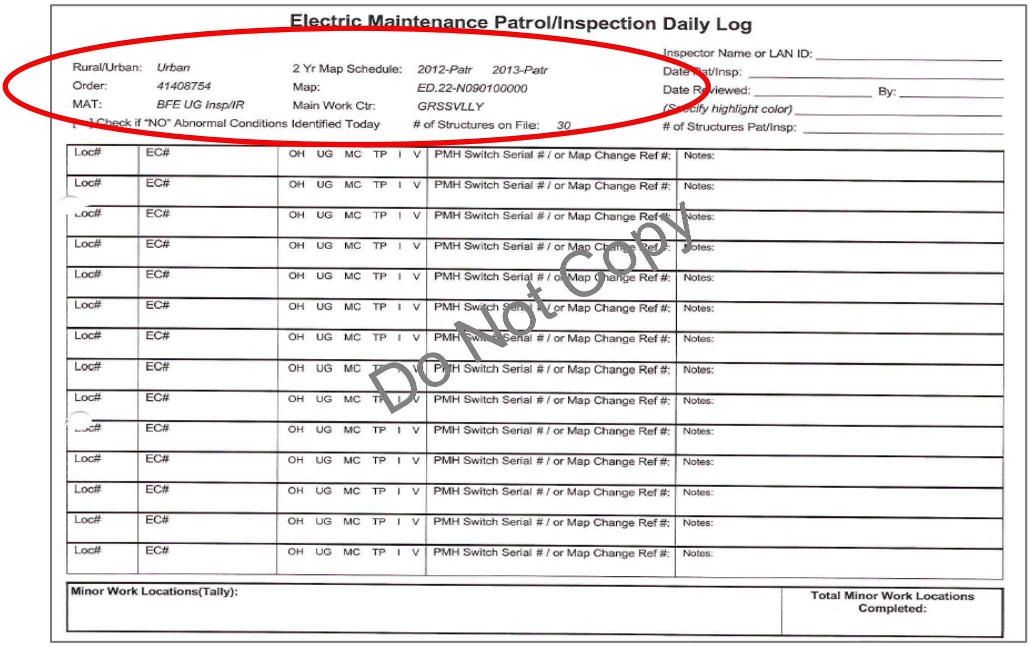
- Review and reference Pending EC Notifications (if any):
  - For Patrols, Review to prevent writing a duplicate
  - For Inspections
    - Review to prevent writing a duplicate
    - Confirm no change to Pending EC Notifications
    - Change priority , recommended due date, or add new FDA as needed
    - Cancel because all work found complete on arrival (NCOA); **Two photos are required for this type of cancelation**
    - Cancel because field conditions do not meet EC Criteria (NOCR); **One photo is required for this type of cancelation**
    - Complete all FDAs as minor work
    - Refer to the EC Notification Job Aid
- Write other forms (Third-Party Utility, Idle Facilities, etc.) and add to the Map Package as conditions apply.

4. Complete the Map Stamp
5. Submit the completed Map Package to the division's PS&R Supervisor or designee.
6. The PS&R Supervisor performs a review
7. The clerical assigned to the PS&R division enters information into the appropriate system of record

14 More Information

- PS&R SharePoint Link / Daily Log: Blank Patrol/Inspect Log
- Your PS&R Supervisor

15 Patrol Log (Pre-populated) – Sample Form



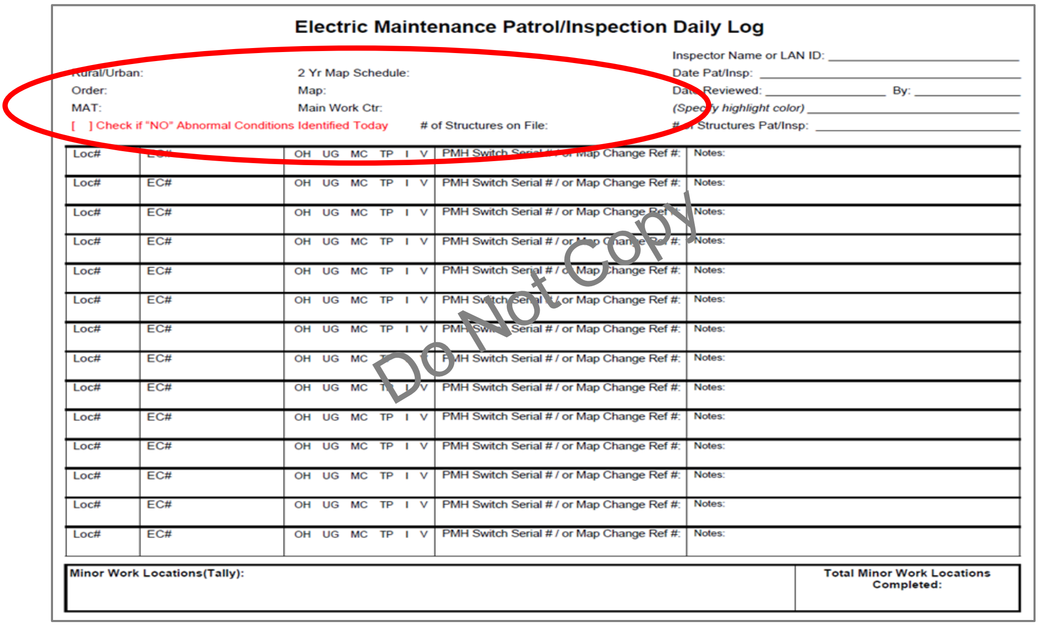
Electric Maintenance Patrol/Inspection Daily Log

Rural/Urban: *Urban* | 2 Yr Map Schedule: *2012-Patr 2013-Patr* | Inspector Name or LAN ID: ____
Order: *41408754* | Map: *ED.22-N090100000* | Date Pat/Insp: ____
MAT: *BFE UG Insp/IR* | Main Work Ctr: *GRSSVLLY* | Date Reviewed: ____ By: ____
[ ] Check if "NO" Abnormal Conditions Identified Today | # of Structures on File: *30* | *(Specify highlight color)* ____
\# of Structures Pat/Insp: ____

Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:

Minor Work Locations(Tally):	**Total Minor Work Locations Completed:**

16 Patrol Log (Blank) – Sample Form



Electric Maintenance Patrol/Inspection Daily Log

Rural/Urban: | 2 Yr Map Schedule: | Inspector Name or LAN ID: ____
Order: | Map: | Date Pat/Insp: ____
MAT: | Main Work Ctr: | Date Reviewed: ____ By: ____
[ ] Check if "NO" Abnormal Conditions Identified Today | # of Structures on File: | *(Specify highlight color)* ____
\# of Structures Pat/Insp: ____

Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:
Loc#	EC#	OH UG MC TP I V	PMH Switch Serial # / or Map Change Ref #:	Notes:

Minor Work Locations(Tally):	**Total Minor Work Locations Completed:**

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This page is reserved for future updates.

This page is reserved for future updates.

Preparing for Daily Work

Overview

This chapter describes the activities required by the Compliance Inspector in order to complete patrols and inspections.

Before You Start

- Read the Safety chapter of this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.

Table of Contents

1 Wear Personal Protective Equipment (PPE)

The PPE is designed for **your** safety.

You must wear your PPE when working in the field or performing a specific task that may require additional PPE (see Table 1 - Required PPE)

Table 1: Required PPE

PPE	TYPE	WHEN TO WEAR
Traffic vest	Class II (no-sleeve)	Traffic speed less than 50 mph
	Class III (short-sleeve)	Traffic speed at or above 50 mph Working at night Within all Cal Trans jurisdiction
Gloves	Rubber gloves with approved leather protector (Class 00–Type II)	Working on secondary Up to 300 Volts
	Class II Rubber gloves with protectors	Above 300 Volts
	Long gauntlet leather gloves	As required
Hard hat	PG&E approved	As required
Long sleeve shirt	Flame resistant (FR)	At all times
Long pants	Flame resistant (FR)	At all times
Safety Glasses	PG&E approved	As required
Proper footwear	EH approved leather and above ankle	At all times

2 Perform 360° Vehicle Walk Around

- Check bin doors and materials secured
- Check lights
- Check tires
- Check windshield wipers
- Check back pack style water can
- Check fire extinguisher
- Make sure that all items in the vehicle are properly stored and secured

---

3 Verify first location and plan safe route.

- Use GPS and map guides
- Use assigned map to aid in your route selection

---

4 Drive to first location utilizing Smith 5 Keys™

- Aim high in steering
- Get the big picture
- Keep your eyes moving
- Leave your self an out
- Make sure they see you

Follow company guidelines for using your phone or electronic devices while you are driving

5 Job Site Awareness

- Park in a safe location (Situational awareness)
- Set out cones (WAP Guide)
- Fill out Daily Tailboard Form

  Purpose of a Self-Tailboard:

  To Review planned activities and all associated risks/hazards to ensure your personal safety and the safety of others

- Update Emergency Placard (as needed)
- Warm it up
- Check all PPE
- Inspect both sets of rubber gloves
- Inspect all climbing gear
- Inspect safety at heights equipment (harness/lanyard)
- Inspect sky genie
- Inspect the boom (flying the boom)
- Wipe down the boom
- Check “Company approved” tools for serviceability

6 Forms Needed to Perform Patrol and Inspection

Daily Forms

- Patrol/Inspection Daily Logs (blank)
- M&C Individual Contributor Tailboard Form
- Time Card

Most Frequent Forms

- Electric Corrective Work Form OVERHEAD
- Electric Corrective Work Form UNDERGROUND
- Inspector Minor Work Tracking Log
- Map Correction Form
- Vegetation Notification
- Idle Facility Form
- Pole Inspection/Test Report
- Third Party Utility Notification
- Third Party Non-Utility Notification
- Infrared Data Sheet

Less Frequent Forms

- Bird Incident Form
- Paving tag
- Dewatering forms
- Incident Report forms

Division Specific Forms

- Access Information forms (Stockton)
- Network Corrective forms (SF & EB Divisions)
- Other division specific forms

7 Tools for Documentation

- Non-erasable ink pens
- Highlighters in multiple colors
- Camera with extra batteries
- Garmin
- Binoculars

8 Expectations Around Safety and Working Alone

Inspector tasks are performed **safely and in an efficient manner** following PG&E's "Rules to Live By" and "Human Performance Tools"

1. Follow PG&E's "Keys to Life Rules" and "Code of Safe Practice"
    - Follow safe driving principles
    - Wear appropriate lifesaving personal protective equipment (PPE)
    - Follow all electrical safety, testing and grounding rules
    - Follow all clearance and energy lock out rules
    - Follow all confined space rules
    - Follow all suspended loads rules
    - Follow all safety at heights rules
    - Follow excavation procedures
    - Follow hazardous environment procedures

2. Adhere to all PG&E "Human Performance Tools"

   - Self-Tailboard
   - Two-Minute Rule
   - Self-Checking (STAR) **Stop, Think, Act, Review**
   - Stop when unsure
   - Questioning attitude
   - Procedure use and adherence
   - Place keeping
   - 3-way communication / Phonetic alphabet

3. Inspector tasks are **primarily** performed as **single-person** work

   In some cases, it may be safer or more efficient to perform inspections as a 2-person unit. **All 2-person work requires Supervisor approval.** Provide Supervisor with reason, estimate of time required to work as a 2-person unit, map number, and location.

   Examples of when a 2-person unit **may be** considered include and are not limited to:

   - Remote or inaccessible areas where a drop and pick up make sense
   - Replacing long side service drop
   - Traffic control on busy thoroughfares
   - Assistance with hot stick procedure such as installing a bail
   - Handling heavy material such as lids/manhole covers etc.
   - Accessing manholes
   - High unit count maps or date driven maps (as directed by Supervisor)

9 Patrolling/Inspecting Overhead tool list

Tools

- Basic hand tools (hammer, etc.)
- Hot sticks (applicable) / Measuring stick
- Hand line
- High voltage tester
- Guy pulling tools
- Shovels
- Ergo tools
- Climbing gear
- Digging bar
- Spill kit
- Multi meter
- Pole testing equipment
- Binoculars

Materials

- Visibility strips/nails
- High voltage signs
- Ground molding
- Guy indicator
- Operating numbers
- 1 1/2“ plastic molding, ¼” lags
- Reducer boots, various sizes
- Preforms, various sizes

10 Patrolling/Inspecting Underground tool list

Tools

- Basic hand tools
- Hot sticks (applicable)
- High voltage tester
- Infrared camera and charged batteries
- Fault indicator magnets
- Shovels
- Ergo tools
- Digging bar
- Manhole hook
- Gas/Air monitor
- Powered equipment (leaf blower, trimmers, etc.)
- Penta head tools
- Caulking gun

Materials

- De-watering tools (pump and sock)
- Adhesive and metal Vis strips
- Decal kit
- Annual inspection stickers
- Operating numbers
- Corporate locks
- Miscellaneous hardware (nuts/bolts)

11 Time Keeping

- PS&R standard time card form
- Timecards must be completed daily and turned in at least once per week
- All fields on the timecard must be completed
- Lunch is 30 minutes
- Working through lunch is not allowed unless approved by Supervisor
- Explanations must be provided if productivity targets are not met (per Supervisor request)

12 End of Day (weekly, and as needed)

- Review and turn in Map Packages upon completion, not to exceed 5 business days
- Pick up new Map Packages
- Check e-mail and mail box
- Stock/fuel/clean truck as needed
- Vehicle housekeeping as needed
- Dispose of all hazardous waste appropriately, i.e. aerosol cans, fault indicators, etc.

In preparation for next day:

- Review Map Packages
- Identify first location for the next day
- If local practice, communicate with supervisor indicating “home safe/ first location of next day”

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Patrols

Overview

This chapter describes the activities required by the Compliance Inspector in order to complete Overhead and Underground Patrols.

Before You Start

- Read the Safety chapter of this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.
- Review assigned Map Package

Table of Contents

1 What is a Patrol?

A Patrol is maintenance activities that include a simple, visual examination of applicable overhead and underground facilities to identify **obvious** structural problems and hazards.

2 When to Patrol

Patrols must be performed annually in urban areas, and every other year in rural areas, unless the area has been inspected in that year. Patrol schedules are measured in calendar years.

12+3 Due Date for Patrols & Inspections

The CPUC 12+3 month P&I requirement defines:

- The due date for each map is based on the date the map was last inspected or patrolled.
- Inspections or patrols may not exceed 3 additional months past the previous inspection or patrol date (maximum 15 months).
- Inspections or patrols may be performed before the due date.
- Inspections or patrols are performed by the end of the calendar year (12/31/XX).
- The start of an inspection or a patrol starts a new inspection or patrol interval that must be completed within the prescribed timeframe.

3 What is Required?

General

- Patrols must be performed by Compliance Inspectors, or company representatives trained and qualified to perform the duties of Compliance Inspector, who are thoroughly familiar with all of the facilities and equipment involved, and all safety rules and procedures associated with the facilities and equipment.
- An inspection may be considered as a patrol, but a patrol **may not** be considered as, or substituted for, an inspection.
- Patrols may be carried out in the course of other company business (such as special patrols from the Outage Review Team meetings) provided that all Patrol requirements are met.
- Patrols cannot be performed at night.
- All patrols must be conducted in a manner that will ensure the identification of any **obvious structural problems or hazards** without using measuring devices, tools, or diagnostic tests, and to record that the facilities have been patrolled.
- Before the map is signed off as complete, all applicable electric distribution facilities in the geographic area of the plat map are patrolled, **even if they are not mapped**.

Overhead

- Patrolled overhead facilities include primary, secondary, and service, and other associated electric distribution facilities outside the substation fence to the end of line. Towers supporting only distribution facilities are also included in the overhead patrol.
- An overhead patrol may be performed by **walking, driving, or helicopter**.
- For maps where secondary enclosures exist without primary enclosures, perform visual evaluation of exterior of enclosure in conjunction with overhead inspection or patrol. **Do not count unit in pole count.**

Underground

- Patrolled underground facilities include pad-mounted equipment, primary enclosures, and **visible** secondary enclosures outside the substation fence to the end of the line.
- An underground patrol may be performed by **walking or driving**.
- Where secondary enclosures exist without primary facilities, either OH or UG, a separate maintenance plan will be created for those maps.

NOTE

If you cannot locate/see the secondary enclosure – then no safety or reliability issue has been identified; continue with your patrol

4 Compliance Inspector Tasks

Compliance Inspectors shall:

- Have all applicable documents (patrol map, Electric Maintenance Patrol/Inspection Daily Log, and a report of all pending EC, IF, and Third-Party Notifications associated with the map)
- Document the completion of patrol by performing the following:
    - On a daily basis, highlight the patrolled facilities (using a different highlight color for each day)
    - Sign and date the log and map each day using non-erasable ink only and indicate the number of units patrolled
    - Record conditions identified in the field on the applicable form(s) and on the Patrol/Inspection Daily Log. Assign a location number per location and use this number to identify the condition on the map and corresponding log. Complete any additional documentation needed.
    - Submit completed map, log(s), and associated forms, which comprise the completed Map Package, to the local PS&R office for review and processing daily, or at the next visit to the PS&R office, not to exceed five (5) business days.
- When a Compliance Inspector encounters a migratory bird incident they will document by filling out the Bird Incident Reporting Form, F2321-3, in accordance with Utility Standard S2321, and submit it to the PS&R supervisor or designee.

  Form F2321-3

  WP2321-01

5 Performing Overhead Patrols

During an Overhead Patrol the following assets need to be patrolled.

- PG&E solely and jointly owned poles **(Highlight)**
- Transmission poles with distribution underbuild **(Highlight)**
- Distribution towers and lattices **(Highlight)**
- Distribution poles with Streetlights **(Highlight)**
- Primary metering **(Highlight)**
- Primary and Secondary conductor **(Highlight)**
- Primary and Secondary risers and services **(Do not highlight)**
- Streetlight only poles, wood or steel **(Do not highlight)**
- For maps where secondary enclosures exist without primary enclosures, perform a visual evaluation of exterior of enclosure in conjunction with the overhead patrol. **(Do not highlight)**

6 Performing Underground Patrols

During an Underground Patrol the following assets need to be patrolled.

- Pad-mount facilities **(Highlight)**
- Primary subsurface vaults and enclosures **(Highlight)**
- Patrol of secondary enclosure includes only a **visual evaluation** of the exterior of visible enclosures to identify obvious structural hazards or problems **(Do not highlight)**
- Where secondary enclosures exist without primary facilities, either OH or UG, a separate maintenance plan will be created for those maps

7 Patrol Documentation Requirements

A maintenance plan must be available defining when patrols are scheduled to be performed. The plan must cover the next five years for overhead patrols, and the next three years for underground patrols.

Required patrol documentation shall consist of the following records which will provide adequate, consistent, and auditable patrol records when used together:

Refer to "Map Package" in this manual.

- Patrol Map: An easy, graphic way to track progress on the patrols of all electric facilities
- Electric Maintenance Patrol/Inspection Daily Log: Provides a means to document location information and links the patrol map by the specific patrol date to the system-generated EC Notification number, thus enabling access to that specific record in the SAP database
- Report of Pending EC Notifications associated with the map. (Reference only to avoid a duplicate EC being created)

Completed, dated, and signed inspection maps and logs must be submitted to the PS&R office for review, along with any applicable forms daily, or at next visit to the PS&R office, not to exceed 5 business days.

The PS&R Supervisor or Designee is required to review all complete Map Packages for the following:

- Review map to ensure all applicable facilities are highlighted
- Review log
- Review updated pending EC notifications
- Review all paper forms
- New EC Forms are formally reviewed by the Centralized Gatekeepers in SAP

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Inspections

Overview

This chapter describes the activities required by the Compliance Inspector in order to complete Overhead and Underground Inspections.

Before You Start

- Read the Safety chapter in this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.

Table of Contents

1 What is an Inspection?

An Inspection is a **careful examination** of individual components, structures and equipment through visual observation **and/or** routine diagnostic tests.

The purpose of an Inspection is to examine and record any **compelling abnormal conditions** that, in the judgment of the Compliance Inspector, will adversely impact safety or reliability.

It is also intended to record **specific regulatory conditions** and **third-party caused conditions.**

2 When to Inspect

Overhead Facilities

Overhead facilities must be inspected once every 5 years. The recommended schedule allows approximately one fifth of the total poles within a division to be inspected each year.

Underground Facilities

Underground facilities must be inspected once every 3 years. The recommended schedule allows approximately one third of the total number of underground primary facilities within a division to be inspected each year.

Inspection schedules are measured by calendar years.

12+3 Due Date for Patrols & Inspections

The CPUC 12+3 month P&I requirement defines:

- The due date for each map is based on the date the map was last inspected or patrolled.
- Inspections or patrols may not exceed 3 additional months past the previous inspection or patrol date (maximum 15 months).
- Inspections or patrols may be performed before the due date.
- Inspections or patrols are performed by the end of the calendar year (12/31/XX).
- The start of an inspection or a patrol starts a new inspection or patrol interval that must be completed within the prescribed timeframe.

3 What is Required?

General

- Inspections must be performed by Compliance Inspectors, or company representatives trained and qualified to perform the duties of Compliance Inspector, who are thoroughly familiar with all of the facilities and equipment involved and all safety rules and procedures associated with the facilities and equipment.

- The Compliance Inspector's primary responsibility when inspecting an overhead or underground electric facility is to **examine and record any compelling abnormal conditions** that, in the judgment of the inspector, will adversely impact safety or service reliability within 12 months, and all **regulatory conditions** as identified on the back of the EC Work Form.

- Inspected facilities include all associated electric distribution and applicable service facilities outside the substation fence (for example, substation switching yards versus external perimeter fence) to the division boundary line.

When can you complete an OH Inspection?

- An OH Inspection requires that you be **at the pole** and be able to see a 360° view of the pole

When can you complete an UG Inspection?

- When the enclosure is **no more than 50% full**
- **All connection points are uncovered** in order to perform infrared inspection
- If there is oil in the enclosure, **additional cleaning may be necessary in order to perform the inspection.** Refer to the Assessments, Notifications, and Forms chapter, Section 11, title "**Preliminary PCB Concentration Determination"** for assessing oil/spills for additional guidance on oil related issues.

NOTE

If there are signs of oil at the facility, the Compliance Inspector should use their field knowledge to assess whether or not there is additional cleaning needed. In most cases, if there are visible signs of leaking/seeping oil, an EC will be required to address the oil issue per the current oil spill matrix, even if we can perform the inspection.

When do you need to clean debris or pump water in order to perform an UG Inspection?

- If the debris is more than **50%** up the side of the equipment.
- For enclosures with no equipment: If the debris **impacts your ability** to perform the IR inspection.
- Water needs to be pumped when it **impacts your ability** to perform the IR inspection (such as a sub-surface enclosure with cables attach to bushings, must be able to unplug and remove)

NOTE

Inspectors who perform UG Inspections should be provided with pumps in order to perform their own pumping.

4 Compliance Inspector Tasks

Compliance Inspectors shall:

1. Have the Map Package (Inspection Map, Electric Maintenance Patrol/Inspection Daily Logs, and all Pending EC, IF, TP Notifications) and the Forms Catalogue

2. Perform the inspection (refer to sections Performing Overhead Inspections and Performing Underground Inspections)

3. Perform **Minor Work** (refer to the Minor Work tab in this manual) that can be done safely and in a reasonable amount of time by an individual

> **NOTE**
>
> PS&R Leadership will provide guidance as to the amount of time an Inspector should spend performing Minor Work vs. creating an EC Notification

4. Perform field validation of Pending EC Notifications (refer to Assessments, Notifications, and Form tab) to address the following:
   - Did the condition deteriorate **faster** than expected?
   - Has the work already been completed?
   - Does the condition meet the latest EC creation criteria?
   - Can the condition last beyond the next **12 months**?

5. Document the completion of inspections by performing the following:
   (1) On a daily basis, highlight the inspected facilities (using a different highlight color for each day).
   (2) Sign and date the Daily Log and map each day using **non-erasable ink** only and indicate the number of units inspected.

(3) If an error is made, white out is **not acceptable**. Instead, draw a line through the original information, write your **initials and the date**, and then write the correct information.

(4) If you identify field conditions that require further action do the following:

a. Circle and sequentially number the location on the map

b. Enter the location number, circle the form code, and write the condition on the Daily Log

c. Enter information on the appropriate form (Map Correction, EC, Third-Party, etc.)

d. Take photos (refer to Assessments, Notifications, and Forms tab)

Note: There may be more than one condition/form at a location (for example, there is a Map Correction and an EC required at the same location).

6. For UG Inspections only, install the current year's inspection sticker; example:

7. Submit completed map, log(s), and associated forms, which comprise the completed Map Package, to the local PS&R office for review and processing daily, or at the next visit to the PS&R office, not to exceed five (5) business days.

5 Identify and Document Field Scenarios

A Compliance Inspector is required to identify and document the following field scenarios that impact safety and reliability:

1. Compelling abnormal conditions and/or regulatory conditions that **can** be repaired safely and efficiently at the site: Use the **Minor Work Tracking Log** (refer to the Minor Work tab in the manual).

2. Compelling abnormal conditions and/or regulatory conditions that **cannot** be repaired safely and efficiently at the site: Use an **EC Work Form** (refer to the Assessments, Notifications, and Forms tab).

3. A map discrepancy: Use the **Map Correction Form** (refer to the Map Corrections tab).

4. A third-party infraction or interference that has or is likely to have an adverse effect on the safety or reliability of PG&E's facilities:

    - If infraction was created by a **Third Party Non-Utility**, use a Third-Party Non-Utility Form 62-3448.

    - If infraction was created by a **Third Party Utility**, use a Third-Party Form 62-3447.

5. Idle facilities: Create an **IF Form** to begin the Idle facility investigation process. If the field condition requires that it be de-energized, **also** fill out an **EC Work Form** to de-energize. Use Priority B with 0 to 3 month duration. (Refer to T&D Bulletin 2009-46.)

6. An enclosure full of water: Reference Environmental Services Procedure P-023. Document it on the **Vault Discharge Report (VDR) Form** 2015-08-01 REV 5.0.

7. Bad pole / woodpecker holes with no Pending EC Notification: At a minimum, perform a visual and sound test per Utility Standard TP-2325S. If the pole fails either the inspection or test, the inspector should perform an intrusive test and document it on a **Pole Inspection/Test Report** **and** fill out an **OH EC Work Form**. (Refer to the OH Diagnostic Testing tab.)

8. A leaking piece of equipment: Respond in accordance to Utility Procedure TD-2320P01. (Refer to the PCB Spill/Leak Category Response Matrix in the Assessments, Notifications, and Forms tab.) Use the appropriate **EC Work Form.**

9. Excessive Temperature Differential: Use the **IR Data Sheet** **and** fill out an **UG EC Work Form**. (Refer to Underground Infrared Assessments tab.)

10. Excessive overhead vegetation that does not prevent the inspection and needs to be cleared within 12 months: Use the **Vegetation Mgt Form.** (Refer to Assessments, Notifications, and Forms tab.)

11. A raptor bird incident: Complete the **Bird Incident Reporting Form**, F2321-3, in accordance with Utility Standard S2321 **and** fill out an **OH EC Work Form**.

12. Immediate safety or reliability hazard: Follow the Emergency Process (refer to the Assessments, Notifications, and Forms tab) and create an **EC Work Form Priority-A (Emergency)** for the condition. Write the location number on the **Map** and **Daily Log**, then enter the following comment: “Emergency, referred to “name-of-relief.”

13. A piece of equipment is out-of-service and/or inoperable (COE, “Critical Operation Equipment”): Notify the Restoration Dispatcher to have a Troubleman initiate the COE Notification in FAS. Write the location number on the **Map** and **Daily Log**, then enter the following comment: “COE, referred to Restoration Dispatch”. No other form is required.

14. A reportable defect is observed on the network system (SF and EB Only.) Use the **Network Corrective Form SF & EB Divisions.**

6 Performing Overhead Inspection

1. **During an Overhead Inspection the following assets need to be inspected**

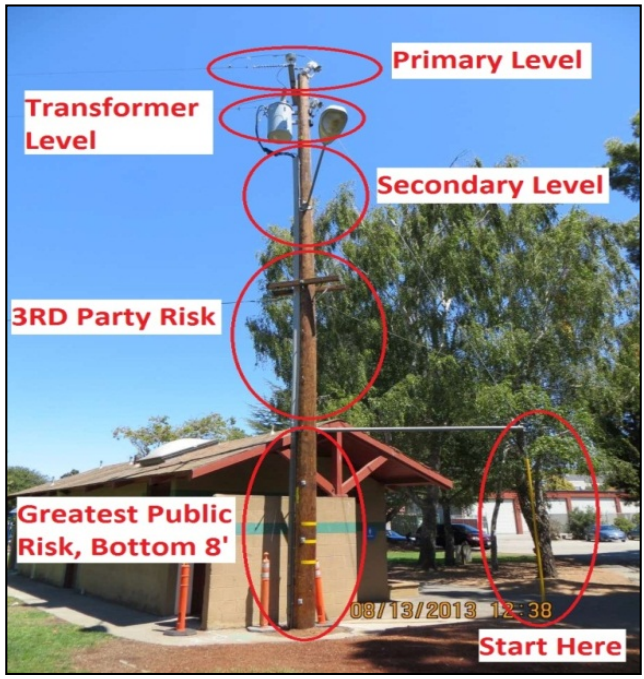
   - PG&E solely and jointly owned poles: includes all equipment and facilities on the pole **(Highlight and count)**
   - Transmission poles with distribution underbuild **(Highlight and count)**
   - Distribution towers and lattices **(Highlight and count)**
   - Distribution poles with Streetlights **(Highlight and count)**
   - Primary metering **(Highlight and count)**
   - Primary and Secondary conductor **(Highlight but do not count)**
   - Primary and Secondary risers and services **(Do not highlight and do not count)**
   - Streetlight only poles, wood or steel **(Do not highlight and do not count)**
   - For maps where secondary enclosures exist without primary enclosures, perform a visual evaluation of exterior of enclosure in conjunction with the overhead inspection or patrol. **(Do not highlight and do not count)**

NOTE

If you cannot locate/see the secondary enclosure – then no safety or reliability issue has been identified; continue with your inspection

   - Infrared inspections **are not required** to be performed in conjunction with overhead inspections and **must not** be considered as, or substituted for, an overhead inspection.

2. **Visually inspect facility from pole bottom to top; check the pole in 8 foot increments.**



Begin at ground level to see a 360° view of the pole

Bottom section - First 8 feet greatest public risk

- Check for vegetation obstructions
- Check guys, preform, and anchor head, (must be able to see anchor head)
- Check for slack guys, missing guy indicators, loose hardware
- Check visibility strips
- Check pole ground
- Check for exposed ground
    - IF within the first 8 feet, THEN complete as minor work, or Priority “B” short duration tag.
    - IF 8 feet to communication level, THEN complete as minor work, or write EC.
- Check ground molding
- Check for riser molding

Middle section

- Check for clearance issues (example, between joint utility on the pole, guy clearance, etc.)
- Check for pole damage
- Check for broken ground molding
- Check for acceptable climbing space
- Refer to “Overhead Clearance Job Aid”

Top section

- Check for corrosion
- Check oil filled equipment for leaks or damage
- Confirm that operating number in field matches map
- Check for missing or illegible high voltage signs
- Check for issues with conductor and clearances from communications/ground
- Check squatters and floaters
- Check crossarms, insulators, ties, conductors
- Check for missing or broken hardware
- Check for upper pole damage and deterioration

7 Performing Underground Inspection

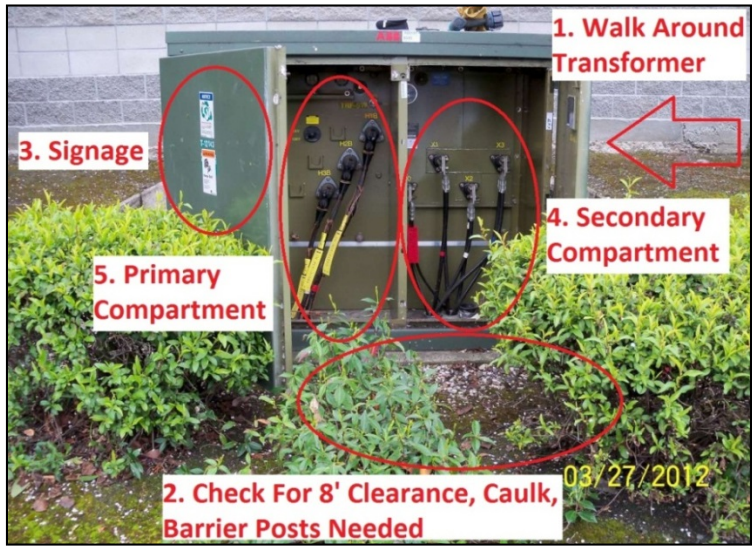
1. **The inspections of primary facilities include a visual evaluation of the exterior and interior of the enclosure and the condition of equipment. The following assets need to be inspected:**

   - Pad-mount facilities are included in the underground inspection **(Highlight and count)**
   - Primary subsurface vaults, enclosures, and equipment like subsurface transformers, switches, etc. **(Highlight and count)**
   - Primary metering inspections will be performed during the underground inspection cycle. Inspection includes all visible, primary cables up to termination point. Metering department is responsible for facilities beyond termination point. **(Highlight and count)**
   - All underground equipment, conductors, splices and elbows within primary enclosures **must be** inspected **(Do not highlight and do not count)**
   - Inspection of secondary enclosure includes only a **visual evaluation** of the exterior of visible enclosures to identify obvious structural hazards or problems **(Do not highlight and do not count)**
   - Where secondary enclosures exist without primary facilities, either OH or UG, a separate maintenance plan will be created for those maps

> **NOTE**
>
> If you cannot locate/see the secondary enclosure – then no safety or reliability issue has been identified; continue with your inspection

During an Underground Inspection Infrared Inspections must be performed in conjunction with underground inspections (refer to Underground Infrared Assessments tab)

2. Visually Inspect the Underground Facility



(1) **Walk around transformer/equipment and enclosures**

(2) **Evaluate enclosure perimeter / exterior**

- Check for adequate clearance
- Check for caulk between transformer and pad
- Check for oil issues, inside and outside of transformer/equipment
- Check barrier posts (visibility strips, locks are secured, etc.)
- Check operating number
- Check for high voltage marking where exposed energized conductors over 750 volts
- Check for ownership and all other required markings

(3) **Open sub-surface enclosure / pad-mount equipment**

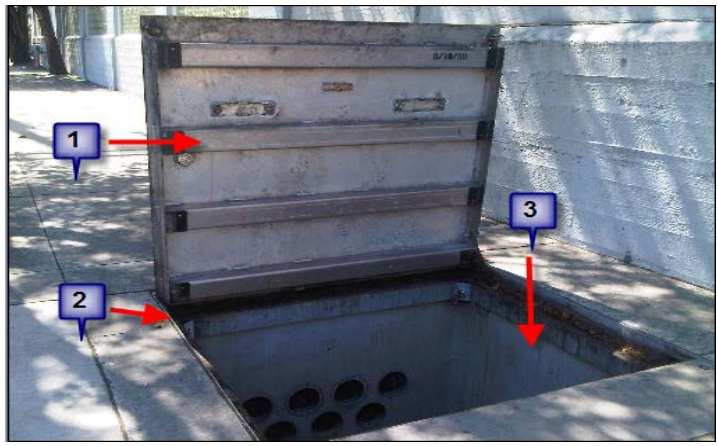
- Bolted down
- Review internal condition of enclosure
- Check for oil issues inside pad-mount
- Check all terminations with IR camera
- Check operating number
- Check for high voltage marking

(4) **Transformers and Sight Glass**

- Look for oil to see if it's visible in the sight glass
- IF no oil is visible, follow safety procedures for pulling Pressure Relief Valve. The oil level may improve
- IF after pulling the relief value, the sight glass still indicates no oil, write an **UG EC Work Form** for Low Oil conditions:
  - FDA: Transformer Pad-mount, Low-oil level, adjust/repair/replace
  - FDA: Transformer Subsurface, Low-oil level, adjust/repair/replace
- For dirty oil conditions, write an **UG EC Work Form**
  - FDA: Transformer Pad-mount, Broken/Damaged, repair
  - FDA: Transformer Subsurface, Broken/Damaged, repair
  - Describe condition in the field comments section

3. Install inspection sticker

- **All Sticker Installations**
  - Apply it safely
  - Do not apply directly to equipment
  - Clean location if necessary
  - Do not remove the previous year's sticker
  - Keep future tag locations in mind
- **Padmount Equipment**
  - Apply verification tag directly to interior of door



- **Sub-Surface Enclosures**
  - o Apply Inspection Sticker to interior of the enclosure
  - o Apply Inspection Sticker directly to metal (see picture label 1)

    OR Apply to Label Holder and Zip tie Label Holder to a location (see picture label 2)

    OR Apply RTV glue to back of Label Holder and apply to enclosure just below the surface (see picture label 3)
- **Vaults/Manholes**
  - o Apply Inspection Sticker to interior, **lower level** of the vault

    OR Apply to Label Holder and Zip tie Label Holder to a location

    OR Apply RTV glue to back of Label Holder and apply to vault wall

4. Close and secure pad-mount equipment, sub-surface enclosures and vault / manholes

8 Inspection Documentation Requirements

A maintenance plan must be available defining when inspections are scheduled to be performed. The plan must cover the next five years for overhead inspections and the next three years for underground inspections.

Required inspection documentation shall consist of the following records which will provide adequate, consistent, and auditable inspection records when used together:

Refer to "Map Package" chapter in this manual.

1. Inspection Map: An easy, graphic way to track progress on the inspections of all electric facilities

2. Electric Maintenance Patrol/Inspection Daily Log: Provides a means to document location information and links the inspection map by the specific location number to the system-generated EC Notification number, enabling access to that specific record in the SAP database

3. Pending EC, IF, and Third-Party Notifications (if any) associated with the map plus any newly written forms (if any)

   Completed, dated, and signed inspection maps and logs must be submitted to the PS&R office for review, along with any applicable forms daily, or at next visit to the PS&R office, not to exceed 5 business days.

   The PS&R Supervisor or Designee is required to review all complete Map Packages for the following:

   - Review map to ensure all applicable facilities are highlighted
   - Review log
   - Review updated pending EC notifications
   - Review all paper forms
   - New EC Wok Forms are formally reviewed by the Centralized Gatekeepers in SAP

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Cannot Get In & Cannot Locate

Overview

This chapter describes the steps necessary for Compliance Inspectors to document field situations when the Compliance Inspector does not have access to a facility or cannot find the facility.

Before You Start

- Read the Safety chapter of this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.

Forms You Need

- UG EC Form
- OH EC Form

Table of Contents

1 Definition of Cannot Get In (CGI)

"Cannot Get In" means the inspection location is known, but access to the facility prohibits the Compliance Inspector from performing the patrol or inspection.

---

2 Examples of Cannot Get In

There are numerous reasons for "Cannot Get In" conditions. The most common scenarios are listed below:

1. **OH & UG Inspections**
   - Facility is behind a locked gate
   - Facility is within a secured compound such as government or business properties that are fenced and require an appointment
   - Facility is surrounded by dense vegetation
   - Facility is flooded (flooded agriculture, winter/spring storms, etc.)
   - Facility is in fire zone (active fire or area is not safe to access)
   - Facility has an unleashed dog that poses a safety issue
   - Facility has property owners that require access negotiation
   - Vehicles or other objects are on top of the facility or prevent inspection of the facility
2. **OH Patrols**
   - One or more facilities are **behind** a locked gate, secured compound, vegetation, flooded, fire zone, or safety issue
   - The Compliance Inspector **cannot** fly, drive, or walk to view pole tops, conductor, crossarm, and guy
3. **UG Patrols**
   - One or more facilities are within a gated community, secured compound, vegetation, flooded area, fire zone, or safety issue
   - The Compliance Inspector **cannot** drive or walk to patrol the facilities

3 Definition of Cannot Locate (CNL / CL)

"Cannot Locate" means that the location of the facility is **unknown** and it prohibits the Compliance Inspector from performing the patrol or inspection.

4 Examples of Cannot Locate

There are only a few variations of "Cannot Locate" conditions. The **most common** scenarios are listed below:

1. **UG Inspections**
    - UG Facility is paved over
    - UG Facility is obscured by dense vegetation
    - UG Facility is mapped, but was never installed or has since been removed in the field (outdated map)

2. **UG Patrols**
    - One or more facilities are paved over or obscured by vegetation
    - The Compliance Inspector cannot drive or walk to patrol the facility
    - UG Facility is mapped, but was never installed or has since been removed in the field (outdated map)

5 Requirements for CGI or CL Conditions

While working your map, do so in accordance with safety practices.

As you highlight facilities on the map, it means you **have** either patrolled or inspected the **highlighted** facilities

There are times when you will not be able to highlight the facility because you **cannot** perform the patrol or inspection due to an access issue or you cannot physically find the facility

We refer to these field conditions as Cannot Get In (CGI) and Cannot Locate (CL).

1. Compliance Inspector must make every attempt to gain access to the facility
2. Document CGI conditions using an OH or UG EC Form.
3. Document CL conditions using an UG EC Form.

6 How to Record CGI on an EC Form

CGI Example:

IF you cannot get in to a facility to conduct an inspection,

THEN (1) Use the EC Work Form to document your findings

(2) Use the first FDA to remove access issues

(3) Use the second FDA to indicate an inspection is needed

OH Facility				
Graffiti	Paint		E	
Limited Access/ Obstruct	Inspect	X	E	
	Remove	1	E	
Idle Facilities	De-Energize		E	
	Remove		F-R	
	Transfer		F	

(4) Copy Primary FDA to front page

Facility:	Damage:	Action:
OH Facility	*Limited Access*	*Remove*

(5) Mark the Priority "B"

***PRIORITY**
- ☐ A - Emergency
- ☒ B - Urgent
- ☐ E - 12 Months
- ☐ F-REG - Next Insp

(6) Write the Recommended Repair Date by assessing when the map is due per the CPUC due date

***Recommended Repair Date** _____ /_____ /_____
MM DD YY

(7) Write Field Comments

***Field Comments** (Describe the work required and the equipment and materials needed. For example: Special tools or equipment, any unusual conditions, special circumstances, and supporting comments related to Exposure or Accessibility):

CGI - Overgrown vines and trees.
Remove veg for inspection.

Digital Picture #: *1296 - 1299*

7 How to Record CL on an EC Work Form

CL Example:

IF you cannot locate a paved-over facility to conduct an inspection,

THEN (1) Use the EC Work Form to document your findings

(2) Use the first FDA to indicate the location needs to be located

(3) Use the second FDA to indicate an inspection is needed

Enclosure				
Broken/Damaged	Repair		F-R	
	Replace		F-R	
Could Not Locate	Locate	1	E	
	Inspect	X	E	
Decayed/Rotten	Replace		F-R	
Full of Debris/Dirty	Clean		F-R	
	Inspect		E	
Limited Access	Inspect		E	
	Remove		F-R	
	Trim		F-R	
Oil In Enclosure	Clean		B	

(4) Copy Primary FDA to front page

Facility:	Damage:	Action:
Enclosure	*Could Not Locate*	*Locate*

(5) Mark the Priority "B"

***PRIORITY**
- ☐ A - Emergency
- ☒ B - Urgent
- ☐ E - 12 Months
- ☐ F-REG - Next Insp

(6) Write the Recommended Repair Date by assessing when the map is due per the CPUC due date

***Recommended Repair Date** _____ /_____ /_____
MM DD YY

(7) Write Field Comments

***Field Comments** (Describe the work required and the equipment and materials needed. For example: Special tools or equipment, any unusual conditions, special circumstances, and supporting comments related to Exposure or Accessibility):

Enclosure paved over.
Flagging traffic control required

Digital Picture #: *8966 - 8974*

8 When to Turn in this Form

1. Look at the map's due date.

2. **IF** map is due less than 4 weeks from today,

   THEN Take the completed form to the local PS&R office **today**

3. **IF** map is due more than 4 weeks from today,

   THEN Take the completed form to the local PS&R office **within 5 business days**

9 Recommended Work Flow Steps

1. Plan your daily driving or walking route

2. CGI: Look for **alternate ways** to gain access when you cannot access the facility shown on the map
   - Try accessing the facility by traversing another street, alley, or trail, including off-road, and **refer to your Garmin or other mapping system**
   - Talk with neighbors, store owners, or property owners
   - When access to the facility is blocked by vehicles, like a parking lot, try coming back early in the morning or work with the store owners to schedule time when the vehicles won't be there
   - Call your local PS&R office. Clerical teams can look up gate codes and other mapping systems to help you. Other Compliance Inspectors, Linemen or M&C crews may know about alternate access and entrance points.

3. CL: **Get help** from others when you cannot find the facility shown on the map.
    - When access to the facility is paved over, **you will** write an EC Form
    - Talk with neighbors, store owners, or property owners
    - Call your local PS&R office. Clerical teams can look up gate codes and other mapping systems to help you. Ask other Compliance Inspectors, Linemen, Mapping, Mark & Locate, or M&C crews who may know about a buried or hard to find location.

4. Use the EC Form to document **CGI and CL** conditions
    - Use the EC Form to document CGI conditions when you cannot access the facility shown on the map
    - Use the EC Form to document CL conditions when you cannot find the facility shown on the map

10 Timekeeping

The time spent by Compliance Inspectors attempting to locate or access facilities will be charged to the map's PM Order number.

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This page is reserved for future updates.

Map Corrections

Overview

This chapter describes the steps necessary for Compliance Inspectors to document discrepancies between what is actually in the field and what is represented on the assigned map.

Before You Start

- Read the Safety chapter of this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.

Table of Contents

1 Definition of Map Correction

Map Correction is the process used to communicate **significant mapping discrepancies** from the Compliance Inspector's field observation compared to the map being patrolled or inspected.

2 When to complete Map Correction Form

Patrols

Complete a Map Correction Form when **significant facility changes** are observation such as OH to UG conversion projects or tap line additions or removals.

Inspections

Complete a Map Correction Form when you identify:

- Facilities shown in wrong location
- Facilities with wrong size or type (pole, enclosure)
- Missing or incorrectly shown vaults, manholes & pad mount equipment
- Operating number discrepancies
- Facilities added or removed
- Incorrect map symbols
- Pole and enclosure ownership discrepancies

Do not complete a Map Correction Form for the following:

- To identify size and/or number of the secondary conductor
- To identify the location of secondary insulator bobs
- Anchor location or anchor ownership discrepancies
- Primary conductor size discrepancies
- Facility mapped as the wrong size
- Mis-spelled street names or other text

3 Requirement: Map Correction

Significant mapping discrepancies are documented on the Map Correction Form.

Compliance Inspectors are required to document significant mapping discrepancies.

---

4 Compliance Inspector Tasks

Compliance Inspectors shall:

IF Compliance Inspector observes **significant mapping discrepancy**,

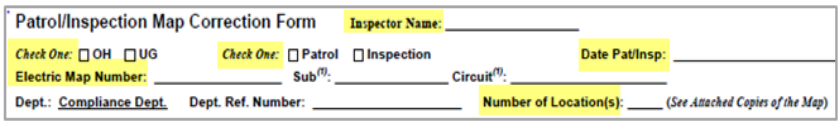
THEN:

1. Circle and sequentially number the location on the map
2. Make notations on the map to show the map correction, if needed:
    - Draw pole symbols on the map for poles that are in the field but not on the map
    - X-out pole symbols for poles that are not in the field but on the map
3. Enter the location number, circle the form code "**MC**", and write the condition on the Daily Log
4. Complete the Map Correction Form
5. Turn in the Map Correction Form with the completed Map Package to the local PS&R office for review and processing daily, or at the next visit to the PS&R office, not to exceed five (5) business days

5 How to Record a Map Correction

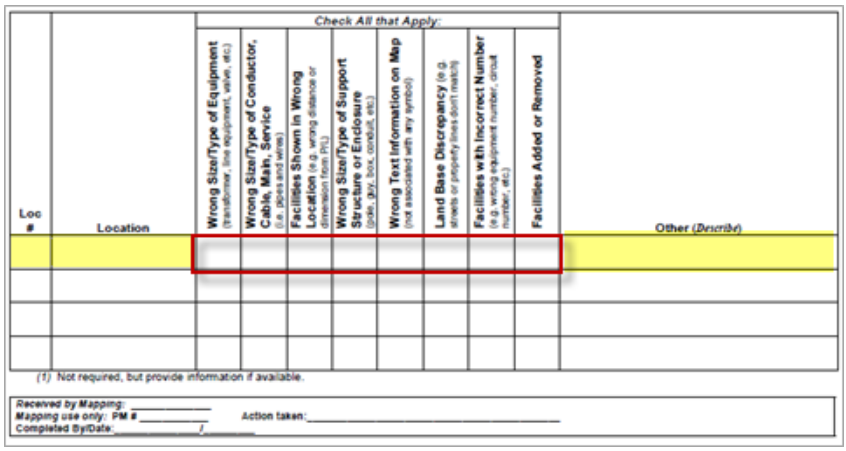
The Map Correction Form supports four map correction locations. Use as many Map Corrections Forms as needed.

Map Information Section


Patrol/Inspection Map Correction Form Inspector Name: _____
Check One: ☐ OH ☐ UG Check One: ☐ Patrol ☐ Inspection Date Pat/Insp: _____
Electric Map Number: _____ Sub(1): _____ Circuit(1): _____
Dept.: Compliance Dept. Dept. Ref. Number: _____ Number of Location(s): ____ (See Attached Copies of the Map)

1. Enter your LAN ID in the “Inspector Name” Field
2. Place a check mark to indicate if you are working on an OH or UG map
3. Place a check mark to indicate if you are performing a Patrol or an Inspection
4. Enter date
5. Enter the Electric Map Number (Plat Map)
6. ***Not Required:*** Enter the Sub (Substation) name and /or Circuit number if known
7. ***Not Required:*** Dept. Ref. Number is entered by your PS&R office once the RW Notification is created in SAP
8. Enter the total number of locations identified on your map that need map correction

Location information Section



Loc #	Location	Check All that Apply: Wrong Size/Type of Equipment (transformer, line equipment, valve, etc.)	Wrong Size/Type of Conductor, Cable, Main, Service (i.e. poles and wires)	Facilities Shown in Wrong Location (e.g. wrong distance or dimension from PI/L)	Wrong Size/Type of Support Structure or Enclosure (pole, guy, box, conduit, etc.)	Wrong Text Information on Map (not associated with any symbol)	Land Base Discrepancy (e.g. streets or property lines don't match)	Facilities with Incorrect Number (e.g. wrong equipment number, circuit number, etc.)	Facilities Added or Removed	Other (*Describe*)

(1) Not required, but provide information if available.

Received by Mapping: _____
Mapping use only: PM # _____
Completed By/Date: _____ / _____ Action taken: _____

1. Place the location number from your map in the Loc# column of our Map Correction Form
2. Enter a street/service address or descriptive address in the Location column
3. Place a check mark in the proper column to indicate the type of discrepancy(s) that you are reporting
4. Enter photo number(s) and any other applicable information in the “Other” column (example: “45/5 pole”, “Pole shown on N. side of street on the map but is on the S. side of the street”, etc.)

Refer to *Uniform Symbols for Electric Estimating and Mapping* UO Standard S5451 for mapping symbols LINK TO S5451.

6 Common Map Correction Triggers

The following are some of the triggers used to initiate a Map Correction Form

Missing or extra poles for OH maps, primary enclosures for UG maps

On inspection maps where detail visual observations are performed, individual units (poles and enclosures) should be shown accurately on the map. If the location shown on the map isn't accurate and resulted in additional time looking for the facility in the field, consider issuing a Map Correction Form so this is not an issue on future inspections.

On patrol maps where we are looking to identify obvious structural problems and hazards, the actual unit count and facility location is not critical to the patrol process. Poles and enclosures might have been added or removed on existing distribution lines and map corrections are not required. Often the Inspector will not even be aware of the addition or removal of a pole or enclosure; however when significant facility changes are identified during a patrol such as OH to UG conversion projects or tap line additions or removals, map corrections are necessary.

Streetlights and Ownership

In some Divisions, PG&E-owned streetlights were sold to the local City/County and map symbols were not revised to show the new ownership of the fixture or pole. In these Divisions, the Inspectors are unable to determine ownership of the streetlight-only pole and; therefore, Map Correction Forms should not be initiated because ownership is still in question. Assume PG&E owns the facility and highlight if ownership is in question.

Line Equipment and Transformers

On inspection maps where Inspectors perform a careful examination of individual components, structures and equipment, map corrections should be initiated for missing or incorrectly shown line equipment and transformers. This would include things such as operating number changes/issues in the field or on the map. Typically, map corrections are not initiated for items such as individual transformer size discrepancies or conductor size discrepancies.

On patrol maps where we are looking to identify obvious structural problems and hazards, line equipment and transformer locations are not critical functions of the patrol process. However, when significant facility changes are identified during a patrol such as OH to UG conversions projects or tap lines additions or removals, map corrections are necessary.

Secondary and conductor sizes

The size or number of the secondary conductor shown on our maps generally does not impact our patrols and inspections. Also, the location of secondary insulator bobs typically does not impact our patrols and inspections; therefore, Map Correction Forms would not be initiated for these types of discrepancies.

Land Base Discrepancies

When land base discrepancies are identified and these discrepancies impact our ability to perform an inspection or patrol, consider issuing a Map Correction Form so they are not an issue on future inspections. Typically, the spelling of a thoroughfare is more important than if it is listed as a boulevard, lane, circle or avenue. If an area has both a Smith Lane and Smith Circle, then consider issuing a Map Correction Form when the thoroughfare name is incorrectly shown on the map. The addition of a creek or canal symbol on a map could be significant if it helps the Inspector determine where facility access is available and therefore would support a map correction.

Other Types of Facilities or Components Discrepancies

Typically, map corrections are not initiated for anchor location or anchor ownership discrepancies.

Typically, map corrections are not initiated for primary conductor size discrepancies.

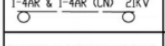
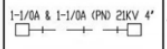
Typically, map corrections are initiated for pole and enclosure ownership discrepancies such as privately-owned service poles that are shown as PG&E-owned poles on the map.

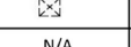
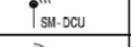
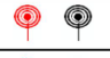
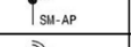
7 GIS vs. CAD Map Symbols

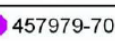
AM / GIS
Asset Management / Geographic Information System

Notable Differences Between GIS & CAD Symbology

August 4, 2014

CAD Symbol	GIS Symbol	Definition
		Single Phase Primary, 1-Wire, with Primary Neutral Note: GIS labels the Line-Ground Voltage (NOT the Circuit Voltage)
		Single Phase Primary with Common Neutral Note: GIS labels the Line-Ground Voltage (NOT the Circuit Voltage)
		Single Phase Primary Underground Cable, when connected to overhead Primary Neutral circuits. (Label if in Conduit) Note: GIS labels the Line-Ground Voltage (NOT the Circuit Voltage)
		Conductor Connection Note: Connectivity is represented in GIS by the Conductor Tie feature
		Conductor Non-Connection Note: The conductor "hump" is not used in GIS to indicate non-connectivity

CAD Symbol	GIS Symbol	Definition
		CAD: Cathodic Protection = CP GIS: Cathodic Protection captured as a Delivery Point feature (Customer Type = PGE / Comments = Cathodic Protection)
N/A		Delivery Point - Customer tie-in point for an unmetered load
		Riser - Show "R" (CAD ONLY)
		CAD: Proposed Service Meter (EST Only) GIS: Proposed Service Location (Meter Panel)
N/A		Existing Service Location (Meter Panel)
		Smart Meter Data Collection Unit (CAD-Proposed Only)(GIS-Proposed/Existing)
		Proposed Smart Meter Access Point(CAD-Proposed Only)(GISProposed/Existing)
		Proposed Smart Meter Relay (CAD-Proposed Only)(GIS-Proposed/Existing)

Symbol	Definition
	Customer Agreement Number (Feature) - Used by GIS Conversion Team to capture MLX, Special Facility, Temporary Facility, and Applicant Warranty agreement numbers, when the exact facilities associated with these agreements could not be determined.
	Feature Note - Used to annotate useful information for various lines of business (Electric & Gas Distribution/Transmission and Land Base) on the maps.
	Load Check Points - Previously captured in DART - These points of load interest are specified by Engineering and connected to the Geometric Network to determine loading at a specific point along a circuit.
	Job History Note - Point Features used to capture historic order numbers.

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Minor Work

Overview

This chapter describes when to perform Minor Work and how to use the Minor Work Form to document maintenance and repairs made to the facility and/or its components.

Before You Start

- Read the Safety chapter of this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.

Forms You Need

- Map Package
- Forms Catalogue: OH/UG Minor Work Forms, OH/UG EC Forms

Table of Contents

1 Definition of Minor Work

Minor Work is maintenance work and/or repair activities that can be accomplished safely and efficiently at the site of the electric distribution facility by the Compliance Inspector.

Minor Work is recorded on these forms:

1. Minor Work Tracking Log
2. Updated Pending EC Notification (a.k.a. Shop Paper)
3. New EC Work Form for Capital work

Within the mix of supporting PG&E's OH and UG Electric Distribution system, Minor Work is a highly effective process that immediately improves reliability, operational safety, and public safety. It is also the most cost-effective preventive maintenance model used by M&C.

2 Examples of OH Inspection Minor Work

Compliance Inspectors should make every effort to correct abnormal compelling and/or regulatory conditions within the first 8' on the pole

1. When there is **too much vegetation to be cleared safely**, use an EC Form to identify that that you cannot complete the OH Inspection until the vegetation is removed. In this case, you would use these FDAs:
   - FDA 1: Tree/Vine Overgrown Remove
   - FDA 2: OH Facility Could Not Locate Inspect
   - Priority 'B'
   - Recommended Due Date 0-3 month, not to exceed the CPUC Due Date for the Map

2. Examples of OH Minor Work are grouped **below 8 feet** for Compliance Inspectors who do not have bucket trucks and **above 8 feet** for those who do have bucket trucks.

   - **Below 8 feet**
     (1) Anchor - Adjust/Repair
     (2) Ground - Repair/Replace
     (3) Guy - Adjust/Repair/Trim
     (4) Marking - Install/Replace
     (5) Molding -Install/Repair/Replace
     (6) Pole Step - Install/Remove
     (7) Tree – Trim

   - **Above 8 feet**
     (1) Conductor - Adjust/Repair/Replace
     (2) Connector - Replace
     (3) Ground - Repair/Replace
     (4) Guy - Adjust/Repair/Replace
     (5) Guy - Install/Trim Veg.
     (6) Hardware - Repair/Replace
     (7) High Sign - Install
     (8) Marking - Install/Replace
     (9) Molding -Install/Repair/Replace
     (10) Streetlight - Install/Repair/Replace
     (11) Tie Wire - Replace
     (12) Tree – Trim

3 Examples of UG Inspection Minor Work

1. For UG Inspections, clear vegetation to **gain access** to the facility as shown below.

2. Listed below are the types of Minor Work for UG Inspections

   (1) Elbow - Minor Repair/Capacitance Caps

   (2) Enclosure - Inspect/Trim

   (3) Enclosure - Locate/Remove

   (4) Fault Indicator - Replace

   (5) Grounds - Adjust

   (6) Hardware - Install/Repair/Replace

   (7) Lid Frame - Repair/Adjust/Clean Lid

   (8) Frame - Install/Replace

   (9) Marking - Install/Replace

   (10) Pedestal - Repair/Adjust

   (11) Security Lock - Install/Replace

   (12) Switch /J-Box - Clean/Remove

   (13) Transformer - Clean/Install/Repair/

   (14) Tree / Veg - Trim

   (15) Vault - Inspect/Locate/Repair/Pump

4 Requirements for Minor Work during Inspections

The Compliance Inspector performs Minor Work during Inspections when the following conditions **are met**:

- It is **safe** to do so
- You have appropriate tools
- The facility has no Pending EC Notification or you **can** complete all FDAs as minor work

There are three (3) scenarios when clearing excessive vegetation as Minor Work is **not appropriate**.

Scenario 1: UG Inspection

IF there is **too much** vegetation to be cleared safely,

THEN Use an EC Form to identify that you cannot complete the UG Inspection until the vegetation is removed. In this case you would use these FDAs:

- FDA 1: Tree/Vine, Growing Into, Remove
- FDA 2: UG Facility, Could Not Locate, Inspect
- Priority 'B'

  Recommended Due Date 0-3 month, **not to exceed the CPUC Due Date** for the Map

Scenario 2: OH Inspection

IF there is **too much** vegetation to be cleared safely,

THEN Use an EC Form to identify that you cannot complete the OH Inspection until the vegetation is removed. In this case you would use these FDAs:

- FDA 1: Tree/Vine, Clearance, Remove
- FDA 2: OH Facility, Limited Access, Inspect
- Priority 'B'
- Recommended Due Date 0-3 month, **not to exceed the CPUC Due Date** for the Map

Scenario 3: Ornamental Vegetation Needs Clearing

IF there is **excessive** ornamental vegetation,

THEN (1) Use a Third-Party Non-Utility Form to notify the customer of the clearance violation

(2) Use an EC Form to identify that you cannot complete the UG Inspection or OH Inspection until the vegetation is removed. In this case you would use these FDAs:

- FDA 1: Tree/Vine, Clearance, Remove
- FDA 2: OH Facility, Limited Access, Inspect
- Priority 'B'
- Recommended Due Date 0-3 month, **not to exceed the CPUC Due Date** for the Map

5 Requirements for Minor Work during Patrols

Generally, Minor Work is **not** performed during a patrol.

The Compliance Inspector performs Minor Work during Patrols when the following conditions **are** met:

1. It is **safe** to do so.
2. You have appropriate tools.
3. There **is** a safety hazard.

During Patrols, there are only two (2) scenarios when Minor Work should be performed by the Compliance Inspector.

Scenario 1: Safety Hazard / Pending EC Notification

IF a Pending EC Notification FDA is a safety hazard

THEN Use the Pending EC Notification shop paper to record the minor work completed by you

(a) Check the boxes titled 'Completed'

(b) Date and sign the Pending EC Notification

Scenario 2: Safety Hazard / Able to make safe

IF a safety hazard can be fixed with Minor Work,

THEN Use the OH/UG Minor Work Form to record the minor work

6 Minor Work Process

1. **Preparing For Daily Work**
   - Make sure you have safety equipment, tools, and materials so you can perform **Minor Work** while performing inspections

2. **During an Inspection**
   - After you have determined that Minor Work can be done **safely**, complete all Minor Work repairs for the facility
   - For each facility, you may perform Minor Work

     Note: Be sure to confirm with your PS&R office to confirm how many hours you are authorized to perform Minor Work.

3. **Complete the correct form.** Use one of the following three (3) options:

Option 1: Use the OH or UG Minor Work Form to record Minor Work

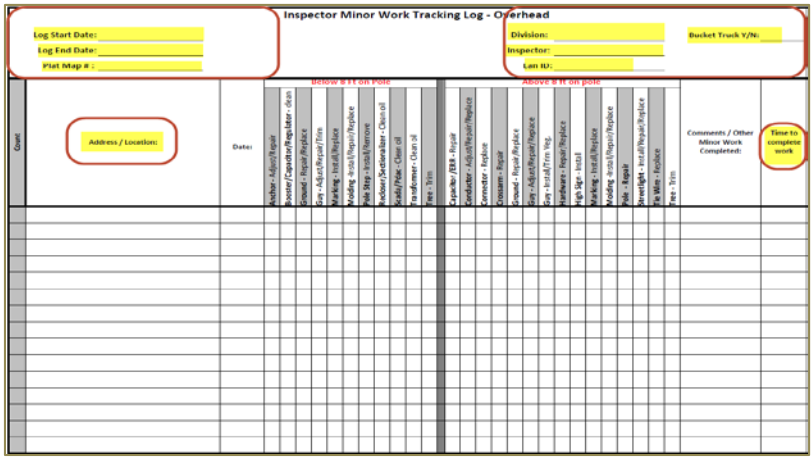
Option 2: Update a Pending EC Notification FDA if you completed the FDA as Minor Work

Option 3: Use the OH or UG EC Form to document the Minor Work completed as Capital Minor Work

4. **After an Inspection**
   - Use your Timecard to record the time worked on this map.
   - Minor Work **should not** be documented on the **Daily Log**.
   - Minor Work **should not** have a **numbered location** on the map.

7 How to Record Minor Work

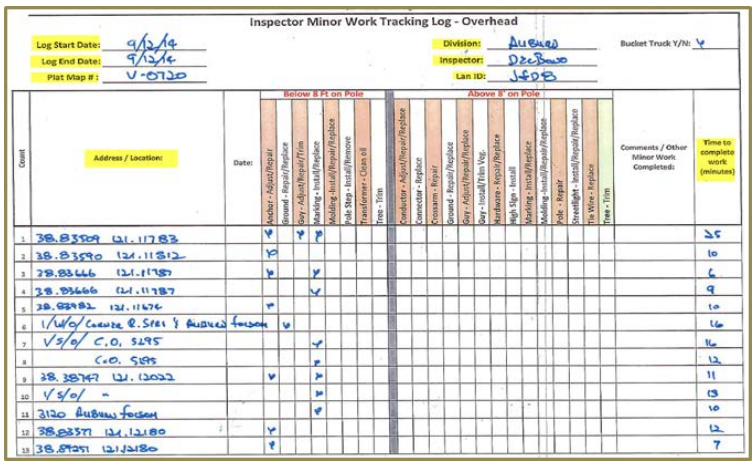
1. Overhead Minor Work Tracking Log



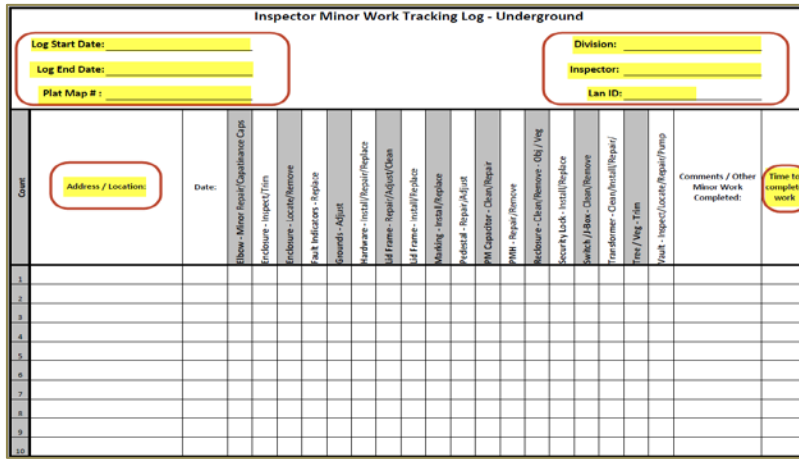
Required Fields

(1) Log Start Date
(2) Log End Date
(3) Plat Map #
(4) Division
(5) Inspector
(6) Lan ID
(7) Bucket Truck (Yes or No)
(8) Address / Location (GPS is acceptable)
(9) Time to complete work (in minutes)

Example



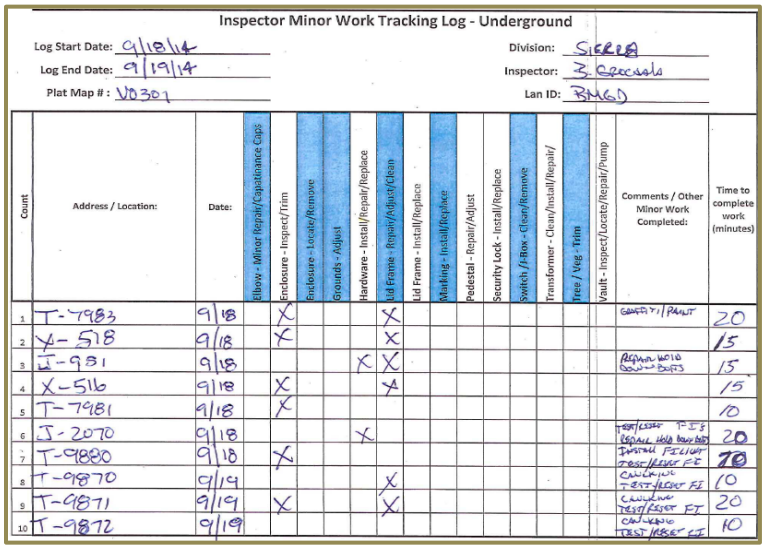
2. **Underground Minor Work Tracking Log**



Required Fields

(1) Log Start Date
(2) Log End Date
(3) Plat Map #
(4) Division
(5) Inspector
(6) Lan ID
(7) Address / Location (GPS is acceptable)
(8) Time to complete work (in minutes)

Example



8 When to Turn in this Form

Always turn in the Minor Work Tracking Log when you turn in the completed map package.

---

9 Recommended Work Flow Steps

1. While working your map, do so in accordance with safety practices
2. Inspect the facility
3. Determine if Minor Work is appropriate
4. Observations may include one of these **six (6) scenarios**:

Scenario 1: Minor Work Not Required **IF** there are **no** compelling abnormal conditions or regulatory conditions,

THEN (1) Highlight your map

(2) Move to next facility

Scenario 2: Minor Work Required / No Pending EC Notification

IF you **can resolve all** compelling abnormal conditions and/or regulatory conditions

THEN (1) Perform Minor Work

(2) Use the appropriate Minor Work Form to record your work

(3) Highlight your map

(4) Move to next facility

Scenario 3: Complete Pending EC Notification

IF you **can resolve all** compelling abnormal conditions and/or regulatory conditions by completing all FDAs on a Pending EC Notification as Minor Work

THEN (1) Perform maintenance repairs as Minor Work

(2) Complete FDAs on Pending EC Notification (refer to Assessments, Notifications, and Forms tab)

(3) Highlight your map

(4) Move to next facility

Scenario 4: Update Pending EC Notification

IF there are new Minor Work activities identified by you but they are **not** listed on the Pending EC Notification

THEN (1) **Do not** perform any Minor Work

(2) Add new FDAs to the Pending EC Notification (refer to Assessments, Notifications, and Forms tab)

(3) Highlight your map

(4) Move to next facility

Note 1: If the minor work is an immediate safety hazard, then perform the repair to make safe (for example, exposed ground in the first 8 feet with access to the public).

If the FDA you repaired is on the Pending EC, then complete the FDA on the EC and write "**Minor Work completed to make safe**" in the comment section.

Note 2: The crew, responding to the EC Notification, will perform the Minor Work. In this case, an FDA for the Minor Work is included in the Pending EC Notification.

Scenario 5: Write New EC Form

IF Minor Work **cannot resolve all** abnormal conditions and/or regulatory conditions that require an EC Work Form

THEN (1) **Do not** perform any Minor Work

(2) Indicate the Location on your map

(3) Mark your Daily Log

(4) Use the EC Work Form to document conditions

(5) Highlight your map

(6) Move to next facility

Note 1: If the minor work is an immediate safety hazard, then perform the repair to make safe (for example, exposed ground in the first 8 feet with access to the public). Use the appropriate Minor Work Form to document the make safe repair work.

Note 2: The crew, responding to the EC Notification, will perform the Minor Work. In this case, an FDA for the Minor Work is included in the EC Form.

Scenario 6: New EC Work Form for Capital Minor Work

IF you completed Capital Minor Work (OH Full Service Replacement or UG Set of Fault Indicators)

THEN (1) Indicate the Location on your map

(2) Mark your Daily Log

(3) Use the EC Work Form to document conditions and complete the EC Work Form

(4) Highlight your map

(5) Move to next facility

10 Timekeeping

Timekeeping is determined by the form used to record Minor Work.

FORM	PM ORDER NUMBER
Minor Work Tracking Log	Use the map's PM Order
Pending EC Notification	Use the division's standing expense order
Capital Minor Work	Use the division's standing capital order

11 More Information

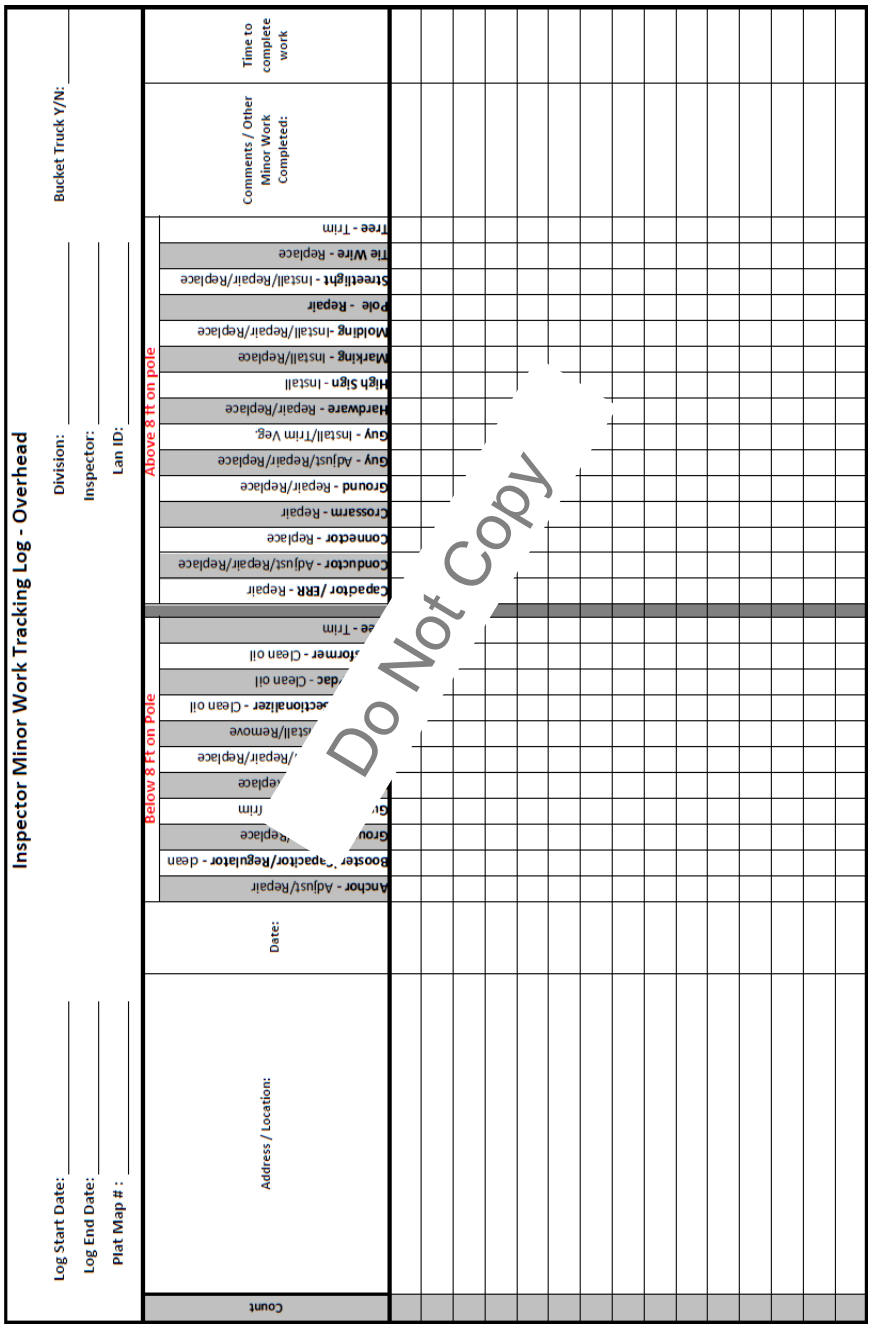
- PS&R SharePoint Link:

  OH Minor Work Log

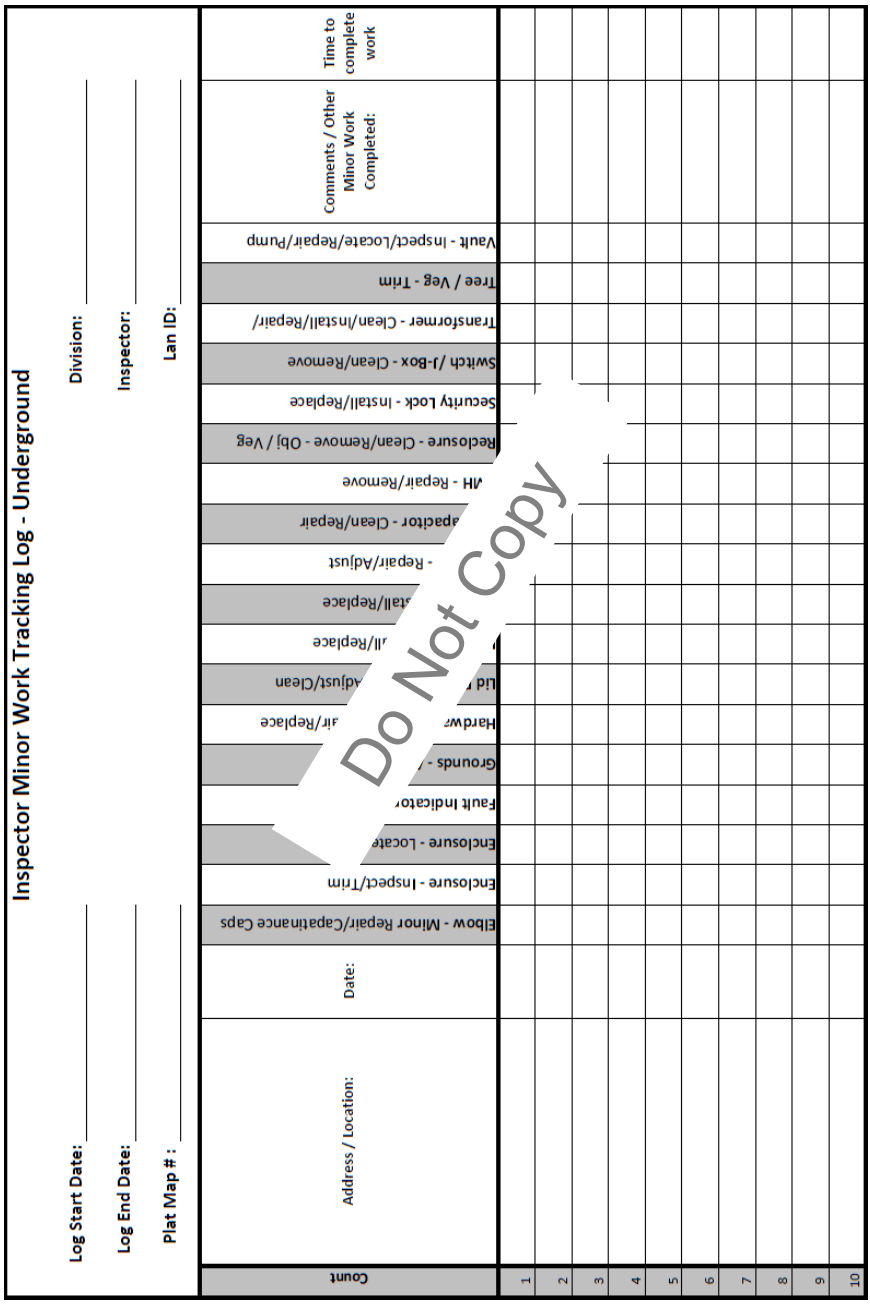
  UG Minor Work Log

- Your PS&R Supervisor

12 OH Minor Work – Sample Form



13 UG Minor Work – Sample Form



Inspector Minor Work Tracking Log - Underground

Log Start Date: _____ Division: _____

Log End Date: _____ Inspector: _____

Plat Map # : _____ Lan ID: _____

Count	Address / Location:	Date:	Elbow - Minor Repair/Capatinance Caps	Enclosure - Inspect/Trim	Enclosure - Locate	Fault Indicator	Grounds -	Hardwa	Lid		Repair/Adjust	apacitor - Clean/Repair	VH - Repair/Remove	Reclosure - Clean/Remove - Obj / Veg	Security Lock - Install/Replace	Switch /J-Box - Clean/Remove	Transformer - Clean/Install/Repair/	Tree / Veg - Trim	Vault - Inspect/Locate/Repair/Pump	Comments / Other Minor Work Completed:	Time to complete work
1																					
2																					
3																					
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Assessments, Notifications and Forms

Overview

This chapter describes the different types of Assessments, Forms, and Notifications used by Compliance Inspectors while performing their daily work.

Before You Start

- Read the Safety chapter of this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.

Table of Contents

1 Assessments

Assessments are activities used by Compliance Inspectors to identify **compelling abnormal conditions and/or regulatory conditions that require action**.

Definition of Assessment: An “Assessment” is one or more observations, examinations, or tests of a facility and its components in order to identify **compelling abnormal conditions and/or regulatory conditions** requiring action.

2 Who Identifies Conditions

Compelling abnormal conditions and/or regulatory conditions can be identified by any of the following means:

- Periodic inspections or patrols of facilities in accordance with the existing standard. (Utility Standard S2301)
- Condition-based and/or diagnostic testing and monitoring of facilities. (Utility Standard S2302)
- Observation by any employee (such as Substation, Vegetation Management, Pole Test and Treat, etc.) during normal job assignments, and other activities, such as emergency or storm activities
- Internal or external reviews
- Customer or general public reports

3 Assessment Process

The Compliance Inspector performs visual observations and may perform diagnostic testing to determine the condition of a facility and its components.

The Compliance Inspector documents observations and test results to recommend actions that help reduce the potential for component failure or facility damage and to ensure the safe operation of the facility and its components and the safety of the public.

All compelling abnormal conditions and/or regulatory conditions requiring action must be recorded on the appropriate corrective form (EC, Idle Facility, Vegetation, Third Party Notification, and Minor Work)

All assessments must be done in the field at the facility's location.

1. OH assessments must be performed using visual observations
2. Other OH assessments may include diagnostic testing (example: hammer sound test, bore tests, etc.) to verify No Good (NG) pole
3. UG assessments must be performed using visual observations
4. UG assessments may include diagnostic testing using an Infrared camera

Factors to Consider When Evaluating an Abnormal Condition

- The abnormality encountered
- Risks if the condition continues to deteriorate
- Probability of facility failure
- Impact of failure and/or exposure
- Impact of exposure to hazard such as potential for injury, nature of injury, or property damage
- The risk of exposure to the public, workers, or employees
- All Regulatory conditions or infractions

There are many situations where the location of the facility and other site-specific conditions may influence the evaluation of the work required.

The priority and recommended repair date associated with any notification depend on the proximity to roadways or pedestrian traffic, accessibility of the location to the public, or the impact of failure or exposure.

4 Impact / Probability Chart

The chart below illustrates the risk evaluation of each condition identified in the field.

Chart: Impact / Probability Matrix

Impact of equipment and/or facilities failure and/or exposure to hazard \ Probability of equipment and/or facilities failure and/or exposure	HIGH	MODERATE	LOW
High	Priority B, 3 months	Priority B, 3 months	Priority E, 12 months
Moderate	Priority E 3-6 months	Priority E, 6-12 months	Priority E, 12 months
Low	Priority E, 3-6 months	Priority E, 12 months	No Tag
Regulatory as identified on back of EC Work Form	Due Date of next Inspection for Map (3 years for UG, 5 years for OH)		

The following definitions further define the Impact/Probability Matrix:

1. Impact of Failure and/or Exposure

- Impact of Failure – Impact to safety and/or reliability. Consider impacts to Company operations or customers and location or type of facility (i.e., main line, radial taps, primary, secondary, transformer, or services); Consider result if equipment, structure, or hardware fails
- Impact of Exposure – Potential for injury to the public or workers

2. Probability of Facility Failure and/or Exposure

- Equipment Failure – Determination of the likelihood that the structure, equipment, line, or component will fail within 12 months or, in rural areas, prior to next Patrol or Inspection; Consider history of incidents and frequency of failures
- Exposure – Exposure of the public or workers to hazards

5 Degree of Importance Chart

The chart below illustrates the Priority and Recommended Repair Date using Probability of Facility Failure and Impact of Failure and/or Exposure.

Use this chart when creating new EC Work Forms or changing Pending EC Notifications.

Chart: Degree of Importance

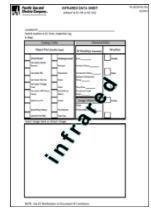
Degree of Importance	Probability of Facility Failure	Impact of Failure and/or Exposure
Priority A Emergency	• A structure has already failed • Equipment has significant damage • The condition results in significant exposure to the general public	• Failure or exposure may lead to serious injuries • Failure has caused outages to customers • Requires immediate response or stand-by
Priority B Urgent 0-3 Months	• A structure has already failed • Equipment has significant damage • The condition may result in significant exposure to the general public • The condition can be "made safe", but requires permanent repair within 3 months	• Failure or exposure may lead to serious injuries, significant outages • Failure or exposure will result in an imminent reliability concern • Failure or exposure is a safety issue with significant impact • Does NOT require immediate response or stand-by
Priority E 3-12 Months	• A structure has already failed, but damage is such that repair is not required in the next 3 months • High likelihood that structure or equipment will fail in the next 12 months • The condition does not result in significant exposure to the general public	• Failure or exposure will not lead to serious injuries • Failure will result in an outage(s) • Failure or exposure is a safety issue with impact to PG&E operations and customers
Low No EC Required	• The condition is not structural • There is a low likelihood of failure • The condition does not have a significant impact to structural integrity • The condition is not likely to fail within 12 months	• There is little potential for injury or impact on reliability • Work procedures mitigate safety concerns • Failure or exposure does not present a significant impact to PG&E operations and customers
Priority F Regulatory (As identified on the back of the EC Work Form)	• N/A • Regulatory Facility/Damage/Action (FDAs) must be identified	• N/A • Regulatory Facility/Damage/Action (FDAs) must be identified

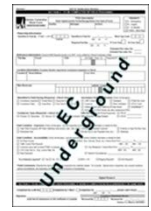
6 Forms

Forms are formatted sheets of paper that are used to record assessment test results and to document **compelling abnormal conditions and/or regulatory conditions** that require action.

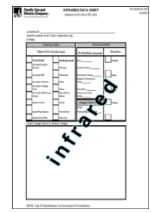
Forms used for assessments: While performing an inspection use these forms to document the results of visual observations or diagnostic testing:

- UG Only: Use the Infrared Data Sheet to document the IR results and use EC Form to identity conditions and actions





- UG Only: Use the Vault Water Discharge Form to document the condition of the water to be discharged and use EC Form to identity conditions and actions



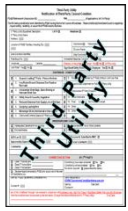
- OH Only: Use the Pole Inspection Test Report to document pole replacement test results and use EC Form to identity conditions and actions

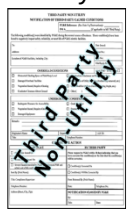
- OH Only: Use the Bird Incident Form to document injured or dead birds and use EC Form to identity conditions and actions

Forms used to document compelling abnormal conditions and/or regulatory conditions: While performing a patrol or inspection, use these forms to document the results of visual observations or diagnostic testing and to recommend action.

- OH Only: Overhead EC Form
- UG Only: Underground EC Form
- OH/UG: EC Notification Shop Paper
- OH Only: Electric Vegetation Form

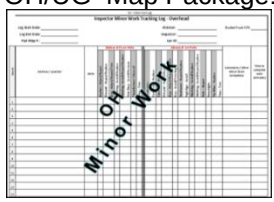
- OH/UG: Third-Party Utility Form
- OH/UG: Third-Party Non-Utility Form
- OH/UG: Idle Facility Form

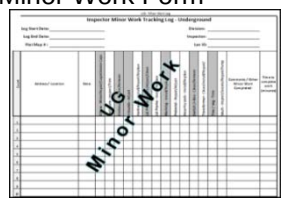




- OH/UG Map Package: Map Correction Form

- OH/UG Map Package: Minor Work Form





7 Notifications

Information documented on each specific form is transcribed into SAP where an electronic data record is stored.

Each type of form has a unique Notification type and control number.

The chart below is the list of each form with its Notification name.

TYPE	NOTIFICATION NAME	FORM NAME
OH	EC Notification	Overhead EC Form
OH	EC Notification	Pole Inspection Test Report
UG	EC Notification	Underground EC Form
UG	EC Notification	Infrared Data Sheet
OH	EC Notification (Veg)	Electric Vegetation Form
OH/UG	RW Map Corrections	Map Correction Form
OH/UG	IF Notification	Idle Facility Form
OH/UG	TP Notification	Third-Party Utility Form
OH/UG	TP Notification	Third-Party Non-Utility Form
OH/UG	PR Notification/PM Order	Minor Work

8 Filling out the EC Work Form

1. The EC Work Form is used to document Compelling Abnormal Conditions or Regulatory Conditions that impact safety or service reliability or facilities which could not be located or accessed during a patrol or inspection. Use the charts in Section 4 Chart: Impact / Probability Matrix and Section 5 Chart: Degree of Importance.
2. The QCR must document the condition identified by selecting the appropriate FDA (Facility Type, Damage and Action Required) on the back of the EC Work Form. The QCR must also select a Priority and Recommended Repair Date using his or her knowledge as a journeyman lineman, training, and the field conditions.
    - **Facility Type**: The category of the facility, such as a pole, crossarm, transformer, etc.
    - **Damage** (Condition Found): A description of the condition of the facility, such as broken, leaning, leaking, etc.
    - **Action**: Action necessary to correct the identified maintenance condition.
    - **Priority and Recommended Repair Date**: When multiple FDAs are reported on an EC Work Form, the **most critical** repair item must be reported as Item #1. The item requiring the earliest repairs determines the recommended repair date selected on the notification.
3. The Priority Codes are as follows:
    - Priority A – Safety / Emergency Immediate Response

      An emergency is defined as any activity in response to an outage to customer(s) or an unsafe condition requiring immediate response or standby to protect the public.
    - Priority B – Urgent Compliance (Due within 3 months)
    - Priority E – Compliance (Due 3-12 months)
    - Priority F – Compliance (For Regulatory Conditions, the Recommended Repair Date is the due date for the next Inspection (UG = 3 years, OH = 5 years).

4. Notification Due Dates (Recommended Repair Dates)
    - Must fit within the timeframe specified by the Priority based on the Impact/Probability matrix

5. Back of the form:
    - Place a “1” in the “New” column for the highest Priority condition found at the location
    - For all other conditions, the QCR must place an “X” in the “New” column

6. Front of the form:
    - Enter the FDA for the highest Priority (primary) condition found at the location
    - Complete the reporting information section
    - Complete the reference information section
    - Complete the location information section including the GPS latitude and longitude

9 Take Photos

For each tag written for a **non-static** condition, photos are required to document asset and field conditions. **A minimum of 2 photos are required.** Take additional photos to provide additional field information for the crew, etc., as needed.

Note: Static conditions are conditions, such as a missing high sign, that will not change. Photos are not required for static conditions.

IMPORTANT PHOTO TIPS

- Be aware of glare
- Do not aim the camera into the sun
- Check photos for clarity before leaving
- Try using the flash for overcast or low light conditions

- **Field Photo #1**: Take a photo of the field condition – to show the type of construction, surrounding area, etc. Take additional photos as needed. Example:

- **Field Photo #2**: Take a close-up photo of the most significant issue identified. Inspector may need to take additional photos from a different angle to clearly show the field condition. Example:

- Document the photo image numbers from the camera on the EC Form

10 Addressing Emergencies

If action was taken to repair, make safe, or eliminate any immediate hazard (Priority A condition), include clear documentation/comments on the EC Work Form to indicate the action taken.

NOTE

Employees must immediately report to the nearest foreman or supervisor any hazardous condition or abnormal facility that, in their judgment, may be dangerous either to the general public, Company employees, third-party or Company property, and/or is likely to interrupt or significantly delay restoration of service to the Company's customers.

The employee must remain on site until relieved or until the hazard is made safe.

11 Vegetation Mgt Form vs EC Work Form

- Except for emergency vegetation issues which require immediate response, all other vegetation conditions (requiring action) observed during an inspection or patrol must be identified and entered into the SAP database as a Vegetation Notification, **Priority E, Work Type Code 564** with a **12-month** required end date, then routed to Vegetation Management for completion.
- Vegetation Management manages all vegetation notifications, and must notify the issuing department when the conditions have been corrected or cancelled. A copy of the completed notification must be returned to Compliance for review or further action if the work is outside of the scope of Vegetation Management.
- Vegetation Management must also ensure that the notification has been properly closed. If no action was required by Vegetation Management, the notification should be cancelled and closed. Comments need to include the forester/contractor name and date of the field visit.
- The following work is outside the scope of Vegetation Management and would require an **OH or UG EC Work Form:**
    - Clearing for climbing space
    - Clearing guy bobs
    - Secondary trimming for reasons other than compliance
    - Trimming for new business/reconstruction
    - Vine removal
    - Debris removal
    - Weed abatement (except as required to meet PRC 4292 compliance and transmission fee strips)
    - Clearing UG sub-structures
    - Clearing road access
    - Street light trimming

12 Pending EC Field Validation

1. The PS&R Supervisor or Specialist is responsible to ensure that anyone performing field validations, including cancellations, meets the definition of a Qualified Company Representative (QCR)

    - These are individuals who, by reason of knowledge, required training, and/or work experience, can accurately perform the required/assigned tasks on electric distribution facilities.

2. The following outlines the key requirements for performing field validations of Pending EC Notifications:

    - Validations and cancellations of Pending EC notifications require a QCR who will make the point-in-time condition-based validation of the facility/condition utilizing the Probability/Impact and Degree of Importance charts. These charts provide guidance to the QCR to take into account the probability of equipment/facilities failure and/or exposure and the impact to equipment/facilities failure and/or exposure to hazard.

    - The priority and required end date associated with the notification depend on the proximity to roadways or pedestrian traffic, the accessibility of the location to the public or the impact of failure or exposure.

    - In addition, for pole replacements, the required end date is based on the condition as outlined in WP2325 Wood Poles – Testing, Restoring, Reinforcing, and Reusing and WP2325-03 – Pole Replacement Prioritization.

3. Cancel: Pending EC Notifications may be cancelled if it is determined that all of the conditions identified on the notification were already completed using the code NCOA (Notification Complete On Arrival). In this scenario, two photos are required to document the new or repaired facility in the field.

    - The Inspector will enter his/her LAN ID and date that Pending EC Notification was confirmed as **NCOA** in the "Completed By" fields

    - The Inspector will check the "Found Completed Upon Arrival" box and enter in the Field Comments section the standard "NCOA" comments: **"All work found completed upon arrival; cancel tag**"

    - **Two photos** are required

        - One photo from "across the street" to show the surrounding area, construction build, etc.

        - A close-up photo of the replaced or repaired field issue/condition

4. Cancel: An EC Notification may also be cancelled if it is determined the field condition does not meet the current Electric Corrective criteria, such as a condition that is not compelling/does not need to be addressed within 12 months (refer to Bulletin 2010-27 for rural maps) OR is not a Regulatory Condition, NOCR (Not Compelling or Regulatory); refer to EC Work Form for regulatory FDA's. In this scenario, at least one photo is required to document the current field condition.

    - The Inspector will enter their LAN ID and date that EC was confirmed as **NOCR** in the "Completed By" fields

    - The Inspector will enter the standard "**NOCR**" comments: "**Tag does not need to be addressed within one year and is not a regulatory requirement, cancel tag**"

    - A minimum of **one photo** is required to document cancellation. Note: Inspector may need to take photos from an additional angle, if needed, to show justification for tag cancellation.

5. If the EC Notification is valid, the Compliance Inspector will review the assigned priority and duration, FDA's, and other information on the EC notification and make updates as needed.

    - The Inspector will enter their LAN ID and date that the EC was validated in the "Reviewed By" fields
    - The Inspector will identify/check any new FDA's on the "FDA" page of the EC notification
    - A minimum of one photo is required if adding a new, non-static FDA to the notification

> **NOTE**
>
> For information on documenting newly identified and/or completed minor work during validation, see Minor/Incidental Work Section.

13 Closing EC Notifications

1. The EC Notification cannot be closed until all of the identified maintenance conditions on the notification have been addressed and/or the facilities are in a safe and reliable condition that will not require action. The field employee (Crew, T-Man, Contractor, etc.) completing the EC notification is required to check that all FDA's identified on the notification have been completed, cancelled (action is not required), or found completed upon arrival, and to sign and date the EC notification to confirm that "all maintenance on this notification is addressed (completed, cancelled, or found completed upon arrival)"

2. Completing Overhead Notifications - Normal work practices apply. The crew repairs all safety items on the pole or structure on which they are working, from the ground to the upper most level of the pole.

   The crew should also repair minor/incidental maintenance conditions (including those that may not have been identified on the EC notification) at the jobsite. Examples of these conditions include the following:

   - Missing or illegible high voltage signs
   - Missing or damaged visibility strips
   - Exposed grounds
   - Low conductor clearances
   - Slack down guys
   - Missing or damaged guy markers
   - Low or bent pole steps
   - Bond wire contacting a primary crossarm brace
   - Bolt covers missing/damaged

3. Completing Underground Notifications - Normal work practices apply. The crew repairs all safety items associated with the enclosure on which they are working, including splice boxes, enclosures, substructures, vaults, or pad-mounted equipment.

   The crew should also repair minor/incidental maintenance conditions (including those that may not have been identified on the EC Notification) at the jobsite. Examples of these conditions include the following:

   - Missing or illegible signage
   - Missing security bolts or locks
   - Items that restrict access, such as trees or bushes
   - Improper grounding

4. New Work or Changes - EC Notifications must be submitted for new items identified by the crew that cannot be repaired at the time they are completing the EC notification in the field.

   Example:

   EC notification was to install a high sign only; upon arrival, crew determines that the crossarm also needs to be replaced. If they have the materials available, they may replace the crossarm and add to the EC notification, or they may install the high sign only, and then write a new EC Form to replace the crossarm. Best practice is to complete all work required at the location with one field visit.

   Where the work performed is different from that identified on the notification, the notification must be “redlined” to update the comments section to indicate the actual work done; any new FDA’s completed should be checked on the printed FDA page of the notification, and the changes entered into the SAP program.

14

Assessing PCB/Oil Spills for ED Line Equipment

General PCB/Oil Spill Response Procedures

1. ALWAYS do the following:
   - Contain spill, if needed
   - Call supervisor for all major spills and all spills related to PCB Equipment manufactured prior to July 1979
   - Take pictures

2. Determine Preliminary PCB Concentration

   IF safe to do so,

   THEN determine the preliminary PCB concentration of the equipment according to the indicators using Table 1: Preliminary PCB Concentration Determination shown on the next page.

   IF the preliminary PCB concentrations are below 50 ppm,

   THEN use the responses in the Non-PCB Equipment columns in Table 2: PCB Spill/Leak Category Response Matrix (OH & Subsurface) and Table 3: PCB Spill/Leak Category Response Matrix (Padmount).

Table 1: Preliminary PCB Concentration Determination

Indicator	Preliminary PCB Concentration
Field screening with Chlor-N-Oil kit.	Above 50 ppm
Nameplate data showing that the transformer was filled with non-PCB insulating fluid or the presence of a blue non-PCB sticker.	Below 5 parts per million (ppm)
Nameplate data showing the manufacture date was after July 1979. If available, refer to Numbered Document 013244 in the Transformer Section of the *Electric Overhead Construction Manual* to determine the manufacture date.	Below 50 ppm
A repair-facility silver sticker or a repair-tracking system label.	As indicated on label: Below 5 ppm Below 50 ppm ≥ 50 and < 500 ppm
None of the above.	Assumed to be ≥ 50 and < 500 ppm

Safety

1. Procedures

   Perform all procedures and activities in accordance with all applicable safety rules, the Code of Safe Practices, and Utility Standard SAFE-1001S, "Safety and Health Program Standard."

2. Contact with Spill

   Employees and contractors must not touch contaminated surfaces or walk through a spill without wearing protective clothing. Protect the public from contact with the spill area.

3. Personal Protective Equipment (PPE)

   Employees must wear appropriate protective clothing and equipment.
   The following are the minimum requirements for protective clothing:

   - Plastic overshoes, if necessary
   - Solvex gloves
   - If any contact with insulating fluid is anticipated, add disposable overalls (flame-resistant rated)

Table 2: PCB Spill/Leak Category Response Matrix (OH & Subsurface)

PCB Spill/Leak Category Response Matrix
Overhead & Sub-Surface Equipment

Indicator	PCB Equipment Manufactured Before July 1979		Non-PCB Equipment Manufactured July 1979 or later	
	EC Notification Priority	Standby at Site	EC Notification Priority	Standby at Site
Equipment has failed and insulating fluid has run off the surface of the equipment and is in contact with the soil, vegetation, or water.	A Replace	Yes	A Replace	Yes
Insulating fluid has run off the surface of the equipment and is in contact with the soil, vegetation, or water OR Insulating fluid Is actively dripping.	A Replace	Yes	A Replace	Supervisor discusses with EFS to determine need to standby based on location and size of spill.
Insulating fluid is about to run off the surface of the equipment but has not made contact with the soil, vegetation, water, or structure.	A Replace	Yes	A Replace	Supervisor discusses with EFS to determine need to standby based on location and size of spill.
Insulating fluid is on the surface of the equipment and is **not** about to run off the surface and has **sheen** (Weeps or Seeps).	Supervisor discusses with EFS to determine EC notification category based on sensitivity of location and upcoming weather. IF no timely response from EFS within ½ hour, THEN assumed to be sensitive area.			
Sensitive Areas	A Replace	Not needed	B 3 month Recheck • Describe sheen in notification • Re-check in 3 months.	Not needed
Non-sensitive Areas	B 30 day Replace IF estimating cannot be completed in time to meet 30 day deadline, THEN replace with like.			
Residual stain is a mark on the equipment that appears dried. Examples: • Stain on side of overhead transformer • Stain on concrete	No further action needed	Not needed	No further action needed	Not needed

Table 3: PCB Spill/Leak Category Response Matrix (Padmount)

PCB Spill/Leak Category Response Matrix
Padmount Equipment

Indicator	PCB Equipment Manufactured Before July 1979		Non-PCB Equipment Manufactured July 1979 or later	
	EC Notification Priority	Standby at Site	EC Notification Priority	Standby at Site
Equipment has failed and insulating fluid has run off the surface of the equipment and is in contact with the soil, vegetation, or water.	A Replace	Yes	A Replace	Supervisor discusses with EFS to determine need to standby based on location and size of spill.
Insulating fluid Is actively dripping either outside or inside the cabinet doors.	A Replace	Yes	A Contain & Clean Complete cleaning A, B, or E Replace	Supervisor discusses with EFS to determine need to standby based on location and size of spill.
Insulating fluid has run off the surface of the equipment or **pad** and is in contact with the soil, vegetation, or water. OR Insulating fluid is about to run off the surface of the equipment but has not made contact with the soil, vegetation, water, or structure OR Insulating fluid is on the surface of the equipment and is **not** about to run off the surface and has **sheen** (Weeps or Seeps).				
Oil is on outside of equipment	A Contain & Clean Complete cleaning Replace within 48 hours	Supervisor discusses with EFS to determine need to standby based on location and size of spill	A Contain & Clean Complete cleaning A, B, or E Replace, Repair, or Recheck	Not needed
Oil is inside of cabinet due to fuse operations.	A Clean Complete cleaning Take before and after pictures	Not needed	A Clean Complete cleaning Take before and after pictures	Not needed
Oil is inside of cabinet due to leaking site glass, leaking drain plug, or unknown	A Contain & Clean Complete cleaning Replace within 48 hours	Not needed`	A Contain & Clean Complete cleaning A, B, or E Replace, Repair, or Recheck	Not needed

Key Notes

1. To simplify how to respond, there is no longer a reference to <>1 gallon of oil
2. Standby Requirements are clarified (not always required, based on location and size of spill)
3. Direction related to the location, i.e. “area sensitivity” such as upcoming weather – high likelihood of rain that would cause oil to drip off of equipment, near waterways or animals (chicken ranch), etc.
4. Option to “re-check” if there is only a sheen and the first responder does not believe it is an “active” leak
5. Stains: Discolored, no sheen present; no further action required

15 Links to Inspector Job Aids

- OH Inspection Job Aid
- UG Inspection Job Aid
- High Voltage Sign Requirements
- Assessing UG Primary Enclosure Covers
- OH Clearance Evaluation Job Aid
- EC Photo Capture Job Aid

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Overhead Pole Assessments

Overview

This chapter describes the process for conducting assessment for overhead poles.

Before You Start

- Read the Safety chapter of this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.

Forms You Need

- Map Package
- Forms Catalogue: OH EC Work Form, Pole Inspection/Test Report

Table of Contents

1 Definition of OH Pole Assessments

OH Pole Assessments include visual testing and may include mechanical testing processes used by the Compliance Inspector to assess the condition of the pole to determine corrective maintenance priority.

2 When to Perform OH Pole Assessments

Suspect Poles can be identified by condition-based and/or diagnostic testing and monitoring of facilities. (Utility Standard S2302)

Not every pole needs to be tested.

IF the Compliance Inspector **suspects a bad pole** because of at least **one** of the following:

1. Results of a Visual Inspection
2. Presence of a Pole Tag
3. Concern that the Pole Tag condition has changed
4. Presence of Woodpecker Holes
5. All pole replacement or reinforcement candidates that meet either of the following criteria **shall be tested**:
   (a) Whenever a pole (other than those identified by Test & Treat) is identified for replacement or reinforcement
   (b) Whenever there is concern that the conditions of a previously tested pole have changed

THEN The Compliance Inspector **must perform diagnostic testing** to determine the condition of a facility and its components

3 Requirements for OH Pole Assessment

Compliance Inspectors are required to perform OH Diagnostic Testing on suspect poles.

Compliance Inspectors are required to refer to the (1) Impact/Probability Matrix chart and (2) Degree of Importance chart to determine corrective maintenance priority. The charts are located in the “Assessments, Notifications, & Forms” tab.

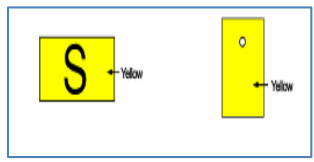
Using the charts, Compliance Inspectors are required to report confirmed suspect poles on the Pole Inspection/Test Report and attach it to an OH EC Work Form.

4 Pole Tags: Test and Treat Tags

1. Poles determined by the contractor to be candidates for replacement are currently tagged by the contractors with a yellow rectangle with a black “N” on it, but in some cases, a white square was used to indicate this condition.

Poles determined by contractor for replacements

2. Poles determined by the contractor to be candidates for reinforcement are currently tagged by the contractors with a yellow rectangle with a black “S” on it, but in some cases, a yellow square was used to indicate this condition.



Poles determined by contractor for reinforcement

3. T&T will test a pole if it has an N tag from the previous test cycle (per their process, it is a new test). A pole with an N on it does always mean that a pole replacement EC has been created. Not all poles with an N actually meet the PG&E replacement criteria.

    - For example, during the early years of T&T they identified poles with 3 inches or less, the current criteria is 2 inches or less.

5 Pole Tags: PG&E Tags

1. All PG&E-tested poles recommended for replacement or reinforcement shall be plainly marked with a pole tag as a caution to employees indicating that the pole is deteriorated. (Pole test-and-treat contractors may use alternate marking methods with the prior approval of the PG&E project manager.)

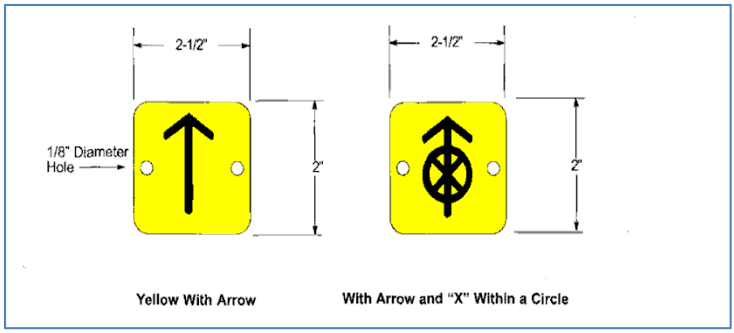
2. The tag serves as a caution to employees that the pole should not be climbed or worked on without following the requirements outlined in the Code of Safe Practices and UO Standard S2411.

3. Place one tag on the road side of the pole at approximately 7 feet above groundline.

    (a) If the pole is deteriorated on the groundline section, place the tag so the arrow points downward.

    (b) If the pole is deteriorated in the upper portion, place the tag so the arrow points upward.

(c) If the pole is deteriorated in both the groundline section and in the upper portion, place a double set of tags, one set with the arrow pointing downward and the other set with the arrow pointing upward.



Arrow points towards the area of deterioration	Similar tag except “x” through arrow indicate immediate attention
Code 374573	Code 374574

6 How to Perform OH Diagnostic Testing

1. Perform a **visual inspection,** which identifies:
   (a) Above-groundline compression wood
   (b) Bird (avian) or insect holes
   (c) Shell rot
   (d) Fire or mechanical damage
   (e) Breaks or cracks
   (f) Loose or broken hardware
   (g) Damage to cross-arms
   (h) Damaged conductors
   (i) Other conditions which could render the structure unserviceable

4. Perform **Sound Inspection,** which identifies portions of the pole with obvious internal deficiencies:

   (a) Test with 20-ounce minimum metal hammer (hammer marks are visible on the pole)

   (b) Test all sides of the pole

   (c) Test from the groundline to a height of 7 feet, or as high as the inspector can reach, whichever is the greater

   (d) Identify possible internal voids or hollows

5. Evaluate Visual and Sound Inspection Results (#1 and #2 above)

   IF the pole **fails either inspection**

   THEN the Compliance Inspector **must perform a Bore Test**

---

7 How to Perform a Bore Test

Definition: A **Bore Test** is an intrusive inspection that **further evaluates** and assesses the condition of the pole: Listed below are the steps used to perform a Bore Test.

1. Locate the largest check at the groundline
2. Excavate to a depth of 20 inches an area wide enough to accommodate the drill
3. Bore a minimum of three 9/16-inch holes at a 45 degree angle to the axis of the pole, with each bore extending beyond the center of the pole
4. Take care not to break through to the other side
5. Bore with a long-shank ship auger (code 200958) to allow observation of the wood shavings exiting the bore

6. **IF** the pole has been previously tested and the previous bores are in the **proper locations**

   THEN Bore a new hole approximately 2 inches below and to the right of existing bore-hole wooden plugs or re-inspect the previous bore by removing the plastic plug(s).

   (a) Start the first bore adjacent to the largest seasoning check, 12 inches below the groundline

   (b) Each successive bore shall be 120 degrees to the right and 12 inches above the previous bore

   (c) Examine the shavings to determine if wood decay is present

   (d) If decayed wood or void is present, bore a sufficient number of additional holes to determine the extent of decay and the average shell thickness

   (e) If a pole is set in asphalt or concrete, or otherwise cannot be excavated, start the first bore adjacent to the largest seasoning check at the groundline

   (f) If internal voids are present in a pole set in asphalt or concrete, the pole shall be rejected as unsuitable for treatment and evaluated for the feasibility of restoration or reinforcement

7. CAUTION Testing Cellon Treated Poles

   IF Testing Cellon Treated Poles: Cellon or Dow gas-treated poles designated by the brand “DFG” have exhibited higher rates of external decay occurring below the groundline.

   THEN, the pole testing procedures **shall be extended** to include the following:

   (a) Excavate 360° around the pole to a depth of 20 inches

   (b) Inspect for surface (shell) decay

   (c) If decay is found, “chip” or scrape the pole to remove the decayed wood from the pole shell down to good wood and measure the resulting groundline circumference

(d) Record this measurement

(e) Remove decayed wood chips from the excavation so the chips will not contribute to further deterioration of the pole

(f) Bore, test, and plug the holes as described in the previous section. Below-ground decay in gas-treated poles in concrete or asphalt can be difficult to detect. Therefore, it is important that the QCR bores inspection holes deeply and across as much of the pole cross-section as possible and looks carefully for any signs of external decay, mildew, moisture, stains, etc., noting any findings on the inspection report.

(g) If a bad pole top is found, a bore test is not required when the lower condition has no abnormalities. However, a pole test data sheet and the minimum fields are required.

8. Intrusive Testing

IF an intrusive test is required

THEN do the following:

(a) Start with the groundline and below groundline (if in dirt) measurements and if the average shell thickness is 2” or less, determine if the pole is stubbable.

(b) Check to see if there is a void at 66”. If there is, the pole is not stubbable.

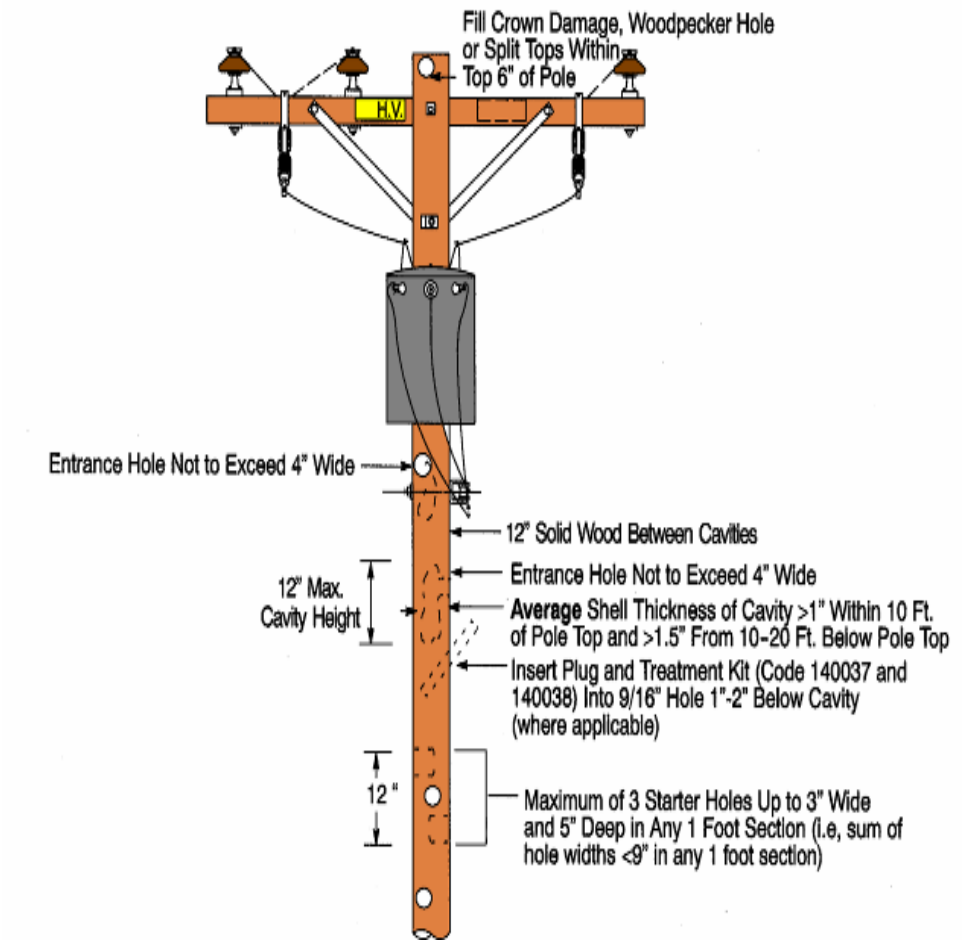
(c) Check to see if there is a minimum average shell thickness of at least 2” at the lower bands (15” or 26”).

(d) Check to see if there is a minimum average shell thickness of at least 4” at the upper bands (42” or 54”).

(e) If there is insufficient average shell thickness at either c) or d), the pole is not stubbable.

(f) If there is sufficient average shell thickness at both c) and d), the pole is stubbable.

8 Assessing Woodpecker-Damaged Poles



1. The Compliance Inspector should note the approximate location, number, and size of woodpecker holes on the “Pole Inspection/Test Report”.

2. Determine whether identified above-ground or pole-top damage is suitable for restoration. Poles are suitable for restoration and can remain in service if they meet the criteria listed below:

   (a) There is 1 vertical inch of solid wood directly below any throughbolt to support existing or proposed attachments.

(b) Nesting cavities or other open pockets have an outside hole diameter that is less than 4 inches wide.

(c) Internal cavities are estimated to be less than 12 inches high and 7 inches in diameter.

(d) The average shell thickness of the cavity is greater than 1 inch within the top 10 feet of the pole, and greater than 1½ inches between 10 feet and 20 feet from the top. See Exhibit B, Part 1, for shell thickness between 20 feet of the pole top and the groundline.

(e) There is more than 12 inches of sound wood vertically between nesting cavities.

(f) There are three or fewer starter holes less than 3 inches wide, 3 inches high, and 5 inches deep within any 1-foot vertical section of the pole. The maximum sum of the diameters of the holes must be less than 9 inches wide in a 1-foot vertical section.

(g) The pole-top crown damage or split tops extend downward less than 6 inches from the pole top.

Reference: Overhead Construction Manual (TIL):
http://www/techlib/default.asp?body=manuals/electricoverhead/

9 How to Record Results on a Pole Inspection/Test Report

1. Record test results on the Pole Inspection/Test Report form.

   (a) Complete all the general information, Date, Inspector, Location, etc.

   (b) Complete visual information and pole description information

   (c) Complete all grey fields

   (d) See sample *Pole Inspection/Test Report* below

Pole Inspection/Test Report — Notification #:

* Date Inspected:	Road Map #:
* Reported By:	Pole Number #:
* Location # (Compliance Inspector Only):	Circuit #
X Street:	* Region:
* City:	Pole Test Rejection #:

Condition of Pole (Groundline to Pole Top)

Visual Inspection	Pole Description	Owner
☐ Vehicular, Mechanical, Insect, Avian, or Fire Damage	☐ Multi-circuit — Height & Class: _____	☐ * PG&E
☐ Split Top	☐ Equipment Pole — * Groundline Circumference: _____	☐ * Joint Pole
☐ Checks	☐ Bucket Truck Accessible	
☐ Shell Rot	☐ Angle > 5° — Year Manufactured: _____	
☐ OK	Year Set: _____	
☐ Woodpecker Holes Size: _____ Number: _____		

Description of Decay Pocket (At or Near Groundline)

Description	Dimensions
Height Where 4" Average Shell Obtained"	
Solid @ 5-1/2" (66") Circle YES OR NO	YES NO
Average Sound Shell @ 4-1/2" (54")"	
Average Sound Shell @ 3-1/2" (42")	
Average Sound Shell @ 26" "	
Average Sound Shell @ 15"	
* Average Sound Shell @ Groundline *Note: If upper damage ONLY, enter N/A here*	
Average Sound Shell @ 12" Below Groundline	

Note: These measurements are not necessary if criteria @ 15" and 42" for steel truss are met

Comments:

Species: ☐ Douglas Fir ☐ Cedar ☐ Other: _____ ☐ Unknown

Corrective Action Required

☐ Treat Only ☐ Restore ☐ Climbing Inspection Required
☐ Reinforce ☐ Replace (Reason for inspection required in comments)

Grade of Construction (Circle one) A B C

Safety factor Evaluation				
	Groundline:	Factor _____	By _____	Date _____
	Top:	Factor _____	By _____	Date _____

Work Completed By: **Date:**

Revised 10/18/2016 NOTE: Asterisk (-) on the tag indicates required field.

Sample: Pole Inspection/Test Report Form

Average Sound @ ground: If pole is being replaced due to upper pole damage only, then the Compliance Inspector should write “N/A” AND complete visual inspection section.

2. Use the (1) Risk/Probability Matrix chart and (2) Degree of Importance chart to determine corrective maintenance priority.

3. Complete the OH EC Work Form to document your findings and recommendations.

10 When to Turn in Forms

Use the OH EC Work Form's Recommended Repair Date and Priority as guidance to turn in both the OH EC Work Form and Pole Inspection/Test Report form.

Take the completed forms together with the completed Map Package to the local PS&R office for review and processing daily, or at the next visit to the PS&R office, not to exceed five (5) business days.

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Underground Infrared Assessment

Overview

This chapter describes the requirements for conducting Infrared Assessments for underground equipment.

Before You Start

- Read the Safety chapter of this manual.
- Wear the appropriate personal protective equipment (PPE) for your specific tasks and work area.

Table of Contents

1 Definition of UG Infrared Assessment

During an UG Inspection, the Compliance Inspector performs tests using Infrared (IR) Thermography. The results of the IR test are compared to PG&E's published Corrective Maintenance Priorities for Underground (additionally, OH and Live-front) Distribution Facilities Qualitative Analysis Table to determine corrective maintenance priority.

Background

1. Use infrared (IR) imaging and temperature measuring systems as diagnostic tools in both electric transmission and distribution (T&D) system inspections and in preventive maintenance programs. IR imaging can accurately identify and initiate the repair or replacement of faulty devices, equipment, and components.
2. Based on industry specifications, connectors have lower operating temperatures than their respective conductors. Any time the temperature of a connector is greater than the temperature of its respective conductor, a higher resistance connection exists and a failure can be expected, but not precisely predicted. Connector degradation occurs faster with an increase in load or temperature.
3. Conductor manufacturers recommend that the usual maximum operating temperature for tensioned bare conductor be limited to 75° Centigrade (C) (167° Fahrenheit [F]).
4. Conductor manufacturers recommend that the usual maximum operating temperature for insulated conductor be limited to the following temperatures:

INSULATED CONDUCTORS	MAXIMUM OPERATING TEMPERATURE LIMIT
High molecular weight polyethylene (HMWPE) material	75°C (167°F)
Cross-linked polyethylene (XLPE) material	90°C (194°F)
Ethylene propylene rubber (EPR) material	105°C (221°F)

NOTE

For insulated conductor systems, the temperature measured at the surface of an insulated conductor or component may be between 20% and 50% of the actual temperature of the targeted conductor or component. For example, if the actual temperature of the component is 100°C (212°F), the measured temperature could be between 20°and 50°C (68°F and 122°F, respectively).

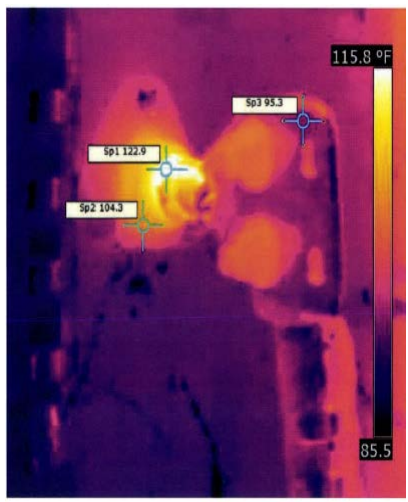
2 When to Perform UG Infrared Assessment

UG Infrared Assessments are performed during Underground Inspections.

3 Equipment

Infrared imaging systems are used to detect and record all of the heat being radiated in their field of view.

- The IR camera uses an image scanning technique to specifically identify heat radiated from a target and its background.
- These units capture and store the heat images pictorially for immediate or future evaluation.
- By using these units, the operator can pinpoint the location of the hottest spot on the target being observed.



4 What is Required?

1. Perform a visual inspection for physical damage and noticeable defects in cables and/or elbows.

2. Perform an Infrared Assessment of cables and connectors.

3. Determine Corrective Maintenance Priority

   - Refer to Tables 1 and 2 on the next pages to assess and prioritize the relative severity of the conditions found during an inspection, based on the measured temperatures and temperature differential.

   - There are two methods used in IR Inspections:

     a. Qualitative Analysis – Refers to relative temperature values of a hotspot with respect to other parts of the equipment with similar conditions.

     b. Quantitative Analysis – Refers to actual temperature values measured from the hotspot.

4. Between methods (a) and (b) above, the most reliable is the Qualitative Analysis because it is not affected by environmental factors such as ambient temperature, humidity, and emissivity as is the Quantitative Analysis.

NOTE

Report the temperature differential on the IR Data Sheet and attach to the appropriate OH or UG EC Notification.

The defective/damaged components must be reported and preserved in accordance with the Material Problem Reporting Program

Table 1

Corrective Maintenance Priorities for Overhead / Live-Front Distribution Facilities

Qualitative Analysis Delta Temperature (ΔT)			
Distribution Facilities	Condition	Temperature Differential (ΔT)	Priority/Due Date
Arrester, Cut-outs and Pot Head Termination	Normal	ΔT ≤ 10°C ΔT ≤ 18°F	No maintenance Required
	Minor	10°C <ΔT ≤25°C 18°F <ΔT ≤45°F	Write EC tag with Priority E Complete within **180** days
	Medium	25°C <ΔT ≤45°C 45°F <ΔT ≤81°F	Write EC tag with Priority B Complete within **90** days
	Severe	ΔT> 45°C ΔT> 81°F	Write EC tag with Priority B Complete within **30** days
Connector and Switch	Normal	ΔT ≤ 25°C ΔT ≤ 45°F	No maintenance Required
	Minor	25°C <ΔT ≤45°C 45°F <ΔT ≤81°F	Write EC tag with Priority E Complete within **180** days
	Medium	45°C <ΔT ≤60°C 81°F<ΔT ≤108°F	Write EC tag with Priority B Complete within **90** days
	Severe	ΔT >60°C ΔT >108°F	Write EC tag with Priority B Complete within **30** days

Quantitative Analysis Measured Temperature (T)			
Distribution Facilities	Condition	Temperature Limits	Priority/Due Date
Arrester, Cut-outs and Pot Head Termination	Normal	$T_{hot\ spot} \leq 70°C$ $T_{hot\ spot} \leq 158°F$	No maintenance Required
	Minor	$71°C < T_{hot\ spot} \leq 80°C$ $160°F < T_{hot\ spot} \leq 176°F$	Write EC tag with Priority E Complete within **180** days
	Medium	$80°C < T_{hot\ spot} \leq 85°C$ $176°F < T_{hot\ spot} \leq 185°F$	Write EC tag with Priority B Complete within **90** days
	Severe	$85°C < T_{hot\ spot}$ $185°F < T_{hot\ spot}$	Write EC tag with Priority B Complete within **30** days
Connector and Switch	Normal	$T_{hot\ spot} \leq 85°C$ $T_{hot\ spot} \leq 185°F$	No maintenance Required
	Minor	$85°C < T_{hot\ spot} \leq 105°C$ $185°F < T_{hot\ spot} \leq 221°F$	Write EC tag with Priority E Complete within **180** days
	Medium	$105°C < T_{hot\ spot} \leq 120°C$ $221°F < T_{hot\ spot} \leq 248°F$	Write EC tag with Priority B Complete within **90** days
	Severe	$T_{hot\ spot} > 120°C$ $T_{hot\ spot} > 248°F$	Write EC tag with Priority B Complete within **30** days

Notes:

1. If infrared component has already failed, or it has significant damage, or its condition results in significant exposure to the general public, write an EC tag with priority A and take immediate corrective action.

2. Write the indicated EC tag and complete within the due date as shown in Table 1.

3. For live-front terminations on pad-mounted transformers or the equipment, use the OH temperature-differential values to determine priorities.

4. This table does not apply to transformer tanks. For the proper action to take, refer to Tables 1 and 2 on Page 2 of Numbered Document 068178 "Distribution Transformer Temperature."

5. Temperature conversion factor: °C = (°F – 32) X (5/9).

6. Temperature differential: $°C_{diff} = (°F_{diff}) / 1.8$.

Table 2

Corrective Maintenance Priorities for Underground Distribution Facilities

Qualitative Analysis Delta Temperature (ΔT)			
Distribution Facilities	Condition	Temperature Differential (ΔT)	Priority/Due Date
Elbow and Termination	Normal	ΔT ≤ 6°C ΔT ≤ 11°F	No maintenance Required
	Medium	6°C <ΔT ≤20°C 11°F <ΔT ≤36°F	Write EC tag with Priority B Complete within 60 days
	Severe	ΔT > 20°C ΔT >36°F	Write EC tag with Priority A Complete within 30 days
Joint/Splice and switch	Normal	ΔT ≤ 6°C ΔT ≤ 11°F	No maintenance Required
	Medium	6°C <ΔT ≤12°C 11°F <ΔT ≤22°F	Write EC tag with Priority B Complete within 60 days
	Severe	ΔT >12°C ΔT >22°F	Write EC tag with Priority B Complete within 30 days

Quantitative Analysis Measured Temperature (T)			
Distribution Facilities	Condition	Temperature Limits	Priority/Due DAte
Elbow and Termination	Normal	$T_{hot\ spot} \leq 80°C$ $T_{hot\ spot} \leq 176°F$	No maintenance Required
	Medium	$80°C < T_{hot\ spot} \leq 88°C$ $176°F < T_{hot\ spot} \leq 190°F$	Write EC tag with Priority B Complete within 60 days
	Severe	ΔT >88°C ΔT >190°F	Write EC tag with Priority B Complete within 30 days
Joint/Splice and switch	Normal	$T_{hot\ spot} \leq 85°C$ $T_{hot\ spot} \leq 185°F$	No maintenance Required
	Medium	$85°C < T_{hot\ spot} \leq 120°C$ $185°F < T_{hot\ spot} \leq 248°F$	Write EC tag with Priority B Complete within 60 days
	Severe	$120°C < T_{hot\ spot}$ $248°F < T_{hot\ spot}$	Write EC tag with Priority B Complete within 30 days

Notes:

1. If infrared component has already failed, or it has significant damage, or its condition results in significant exposure to the general public, write an EC tag with priority A and take immediate corrective action.

2. Write the indicated EC tag and complete within the due date as shown in Table 2.

3. For live-front terminations on pad-mounted transformers or the equipment, use the OH temperature-differential values to determine priorities as shown in Table 1.

4. This table does not apply to transformer tanks. For the proper action to take, refer to Tables 1 and 2 on Page 2 of Numbered Document 068178 "Distribution Transformer Temperature."

5. For underground switches, the delta temperature values shown in this table are between **switch components and its bushing-elbow interface.**

6. Temperature conversion factor: °C = (°F – 32) X (5/9).

7. Temperature differential: $°C_{diff} = (°F_{diff}) / 1.8$.

5 Setting Up the Infrared Camera

To obtain accurate measurements, it is critical to establish the proper IR imaging system setup parameters for emissivity and background temperature. Use other system setup parameters primarily to record and assist initial or future evaluations of heat radiating from a target and its background.

Setting the emissivity value at 1.0 eliminates the need to set the background temperature. In this case, the target is considered a black body, totally reflective, and non transmissive.

1. With highly emissive targets, the actual reflected energy is so small with respect to the emitted energy that the temperature measurement is well within reason for predictive maintenance applications.
2. As the emissivity value of the target decreases, the influence of background radiation increases and, consequently, so does the potential for errors based on background temperature settings.
3. If the emissivity value is set at less than 1.0 and the background temperature setting is adjusted inaccurately, the chances are greater that the target's resulting temperature measurement will contain errors than if the emissivity value were set at 1.0.
    a. For example, when the emissivity setting is less than 1.0 and the background temperature setting is higher than the actual background temperature, the target temperature measurement will be less than it should be. However, if the background temperature setting is lower than the actual background temperature, then the target temperature measurement will be higher than it should be. The measurement deviation is compounded as the emissivity setting decreases from 1.0.

    b. This approach eliminates the need to determine exact emissivity and background temperature values, simplifies the system operation, and results in reasonably accurate measurements. For example, when IR measurements are taken on overhead systems where the ceiling (sky) is unlimited, an accurate background temperature is nearly impossible to determine. Furthermore, most targets have dark surfaces and, therefore, have emittance values very close to 1.0.

6 IR Scanning Technique

If the color pallet of the thermal image shows an elevated differential temperature between the targeted component and conductor/cable, follow the steps below:

1. Center the targeted component (see Measurement Points ① in Figures 1 through 8 on page 10) in the viewer or sight of the IR scanning device, and observe the measured temperatures.

2. Scan approximately 1 to 2 feet (ft) of the conductor/cable entering and/or leaving the targeted image, and observe the measured temperatures (see Measurement Points ② in Figures 1 through 8 on page 10)

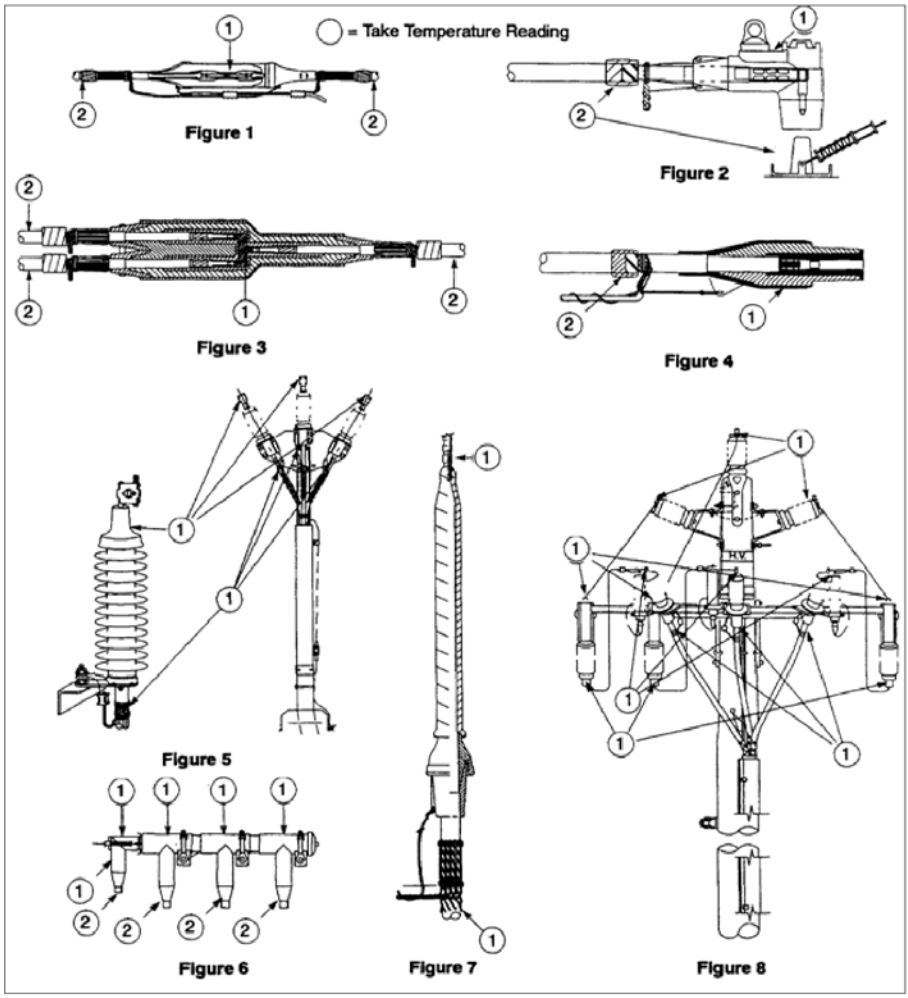
3. For radial live-front terminations where there is no adjacent component(s) on the same phase, compare the phase connector to other phase connectors and take load readings if a compelling abnormal condition is identified.

4. For looped live-front terminations, compare the connector temperatures on the same phase to each other and take a load reading on each cable (if an abnormal condition is found) to help ensure the temperature differential is not load related.

5. If the temperature differential is within the normal value shown in Tables 1 and 2, but the temperature absolute value exceeds the normal value shown in Tables 1 and 2, a temporary load transfer is recommended to increase the load viewed by the targeted component. Repeat the IR inspection on the same component and record the findings.

7 Infrared Inspection Measurement Points

The “Infrared Inspection Measurement Points,” image is comprised of eight separate figures (Figures 1 through 8 on page 10) that display the temperature measurement points on various conductor assemblies.



Infrared Inspection Measurement Points

Notes:

1. Numbers ① and ② are the measurement points referred to in sections 4 and 5
2. Observe excessive temperature readings for figures that only designate Measurement Points ①.

8 Identify Hot Transformers and Underground Oil Switches

The IR camera provides thermal images that can be used to identify transformer tanks with high temperatures due to high loading and switch tanks with high temperatures due to internal switch problems.

If a transformer tank with a high temperature is identified, take the actions indicated in Tables 1 and 2 on Page 2 of Numbered Document 068178 “Distribution Transformer Temperature.”

If an oil switch tank with a temperature higher than its cable terminations is identified, write an EC tag with Priority A to replace the switch immediately.

9 IR Reference Documents & Links

Form 62-0113, “Material Problem Report”

Form TD-2022P-01-F02, “Infrared Data Sheet”

Numbered Document 068178, “Distribution Transformer Temperature”

Utility Standard SCM-2106S, “Material Problem Reporting (MPR) Standard”

This page is reserved for future updates.

This page is reserved for future updates.

Forms Catalogue

Overview

This chapter provides examples of forms used by Compliance Inspectors.

Table of Contents

1. Electric Maintenance Patrol/Inspection Daily Log

Blank
10/16/2015

Pacific Gas and Electric Company

Electric Maintenance Patrol / Inspection Daily Log

☐ Rural ☐ Urban

Order: ______ MAT: ______

Schedule: ______ Map: ______ Main Work Center: ______

Inspector Name or LAN ID: ______
Date of Patrol/Inspection: ______
Date Reviewed: ______ By ______
(Specify highlight color.)

☐ Check if "NO" Abnormal Conditions Identified Today. # of Structures on File: ______ # of Structures Pat/Insp ______

Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:
Loc #	EC #	OH UG MC TP I V IF	PMH Switch Serial # or Map Change Ref #	Notes:

2. M&C Individual Contributor Tailboard Form

TD-2024P-01-F06
Rev: 0 12/2011
Page 2 of 2

Document each Self check throughout the day(s)			
Signature:			
Time, Date & Location	Task	Hazards Identified and Controls Applied	

TD-2024P-01-F06
Rev: 0 12/2011
Page 1 of 2

Electric M&C Individual Contributor Tailboard

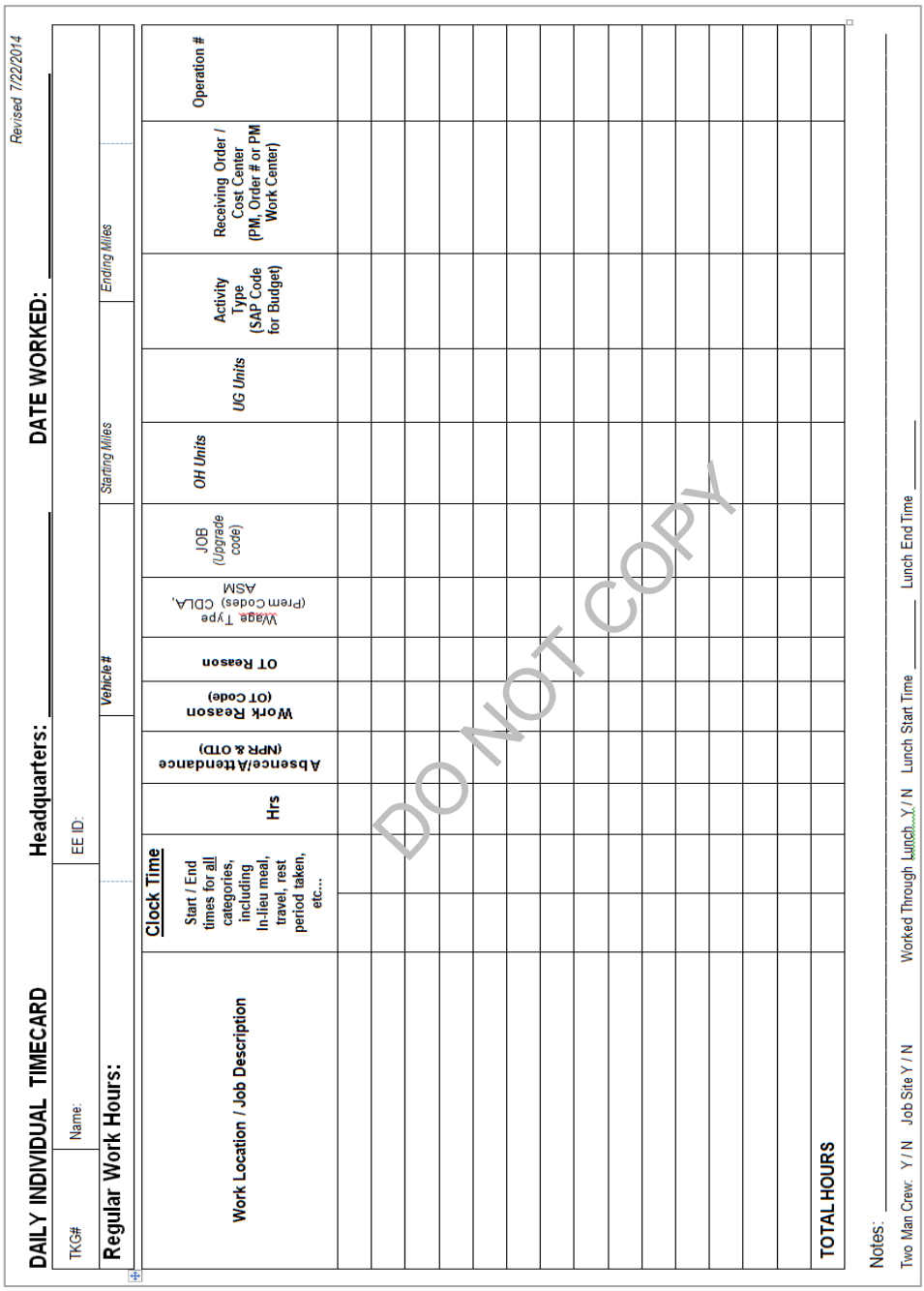
Name:
Date:
Reviewer:

Compliance Inspector M&C Coordinator / FET Trench Inspector
Mark & Locator Yard Person Other_____

Conduct a Self Tailboard at each location before performing a job to identify, evaluate and control any hazards related safety.

SELF CHECK	JOB HAZARD ANALYSIS
◆ STOP ◦ Evaluate the work site and surroundings ◦ Am I qualified to perform the task? ◦ Does the task require another person or a crew? ◦ If needed, contact the supervisor about unexpected hazards or conditions and the necessary controls ◆ THINK ◦ Are required barriers and signs in place? ◦ Have I protected myself and the public? ◦ What behaviors could cause injury to myself or the public? ◆ ACT ◦ Identify, evaluate and control potential hazards ◦ Secure vehicle and equipment ◆ REVIEW ◦ Task to be performed ◦ Approved work methods and procedures ◦ Approved tools and equipment ◦ Proper PPE in use for the task **Apply the Two-Minute Rule:** Is required for all activities regardless of duration or complexity. To improve a person's situational awareness when at the job site, when beginning a task or to check for changing conditions when returning from a break. **The Smith 5 keys** 1. Aim High in Steering 2. Get the Big Picture 3. Keep Your Eyes Moving 4. Leave Yourself an Out 5. Make Sure They See You **3 Way Communication:** Promotes a reliable transfer of information & understanding insuring the correct action takes place.	➢ Electrical hazards ◦ Conductor clearances ◦ Minimum working distances ◦ Exposed energized conductors or equipment ◦ Ungrounded de-energized conductors or equipment ◦ Wire down ◦ Hot pole, cross arm, hardware ➢ FR clothing requirements ◦ Single layer ◦ Double layer ➢ Eyes on path ◦ Slip, trip, fall hazards ◦ Slope safety awareness ➢ Environment ◦ Poisonous plants ◦ Dogs, snakes, insects ◦ Bio hazards, local hazards ➢ Equipment requirements/limitations ◦ Boom clearances (Aerial Lift) ➢ Excavating ◦ USA request ◦ USA markings ➢ At risk for strains / sprains ◦ Heavy lifting ◦ Body position / posture ◦ Proper work boots ➢ Visibility ◦ Obscured ◦ Clear line of sight ◦ Sufficient lighting ➢ Fire hazard Index ◦ Serviceable Fire extinguishers ◦ Back pack & shovel

3. Timecard



DAILY INDIVIDUAL TIMECARD — Headquarters: _____ — DATE WORKED: _____ — Revised 7/22/2014

TKG# | Name: | EE ID:

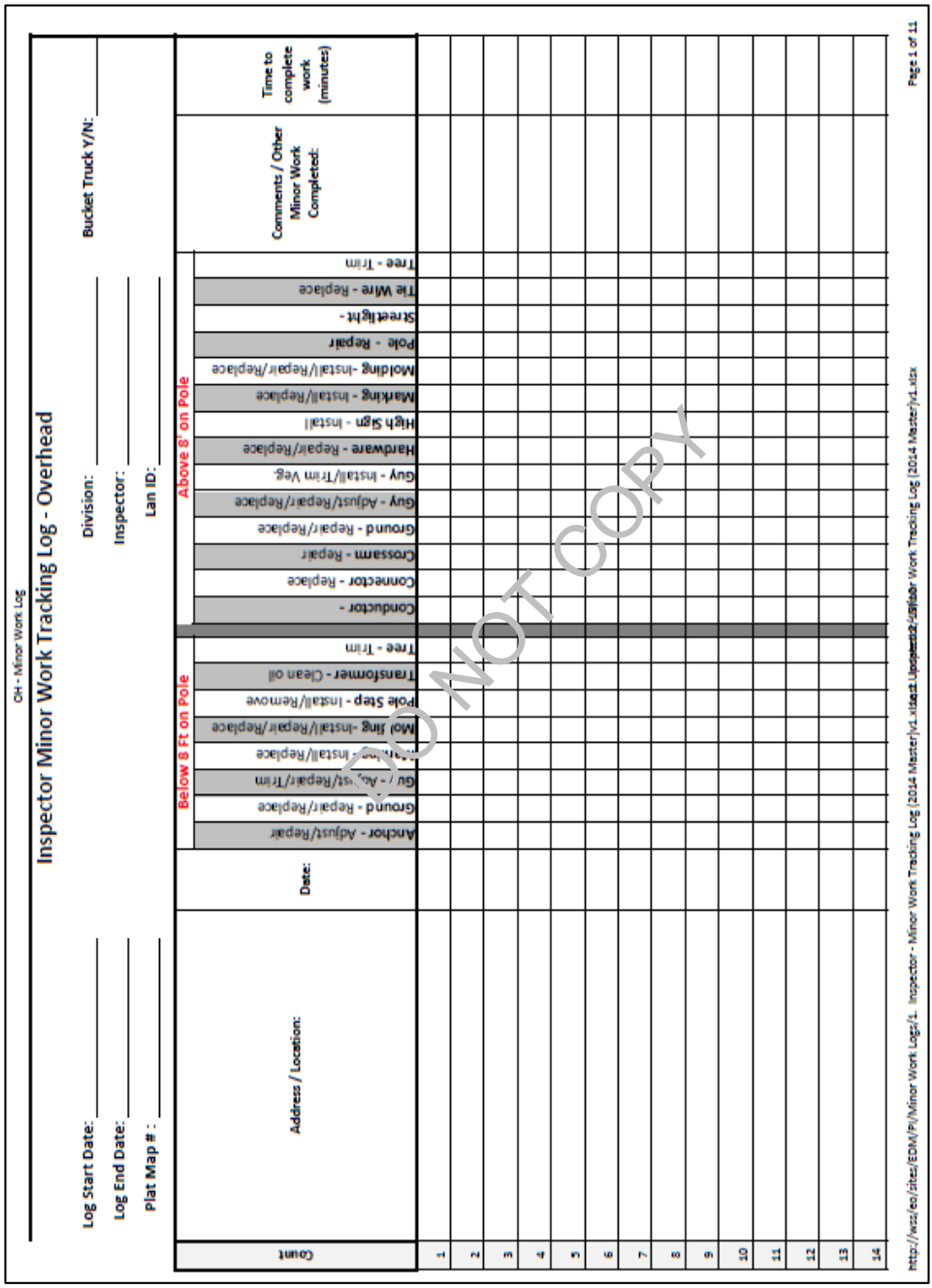
Regular Work Hours: | Vehicle # | Starting Miles | Ending Miles

Work Location / Job Description	Clock Time: Start / End times for all categories, including In-lieu meal, travel, rest period taken, etc...	Hrs	Absence/Attendance (NPR & OTD)	Work Reason (OT Code)	OT Reason	Wage Type (Prem Codes) CDLA, ASM	JOB (Upgrade code)	OH Units	UG Units	Activity Type (SAP Code for Budget)	Receiving Order / Cost Center (PM, Order # or PM Work Center)	Operation #
TOTAL HOURS												

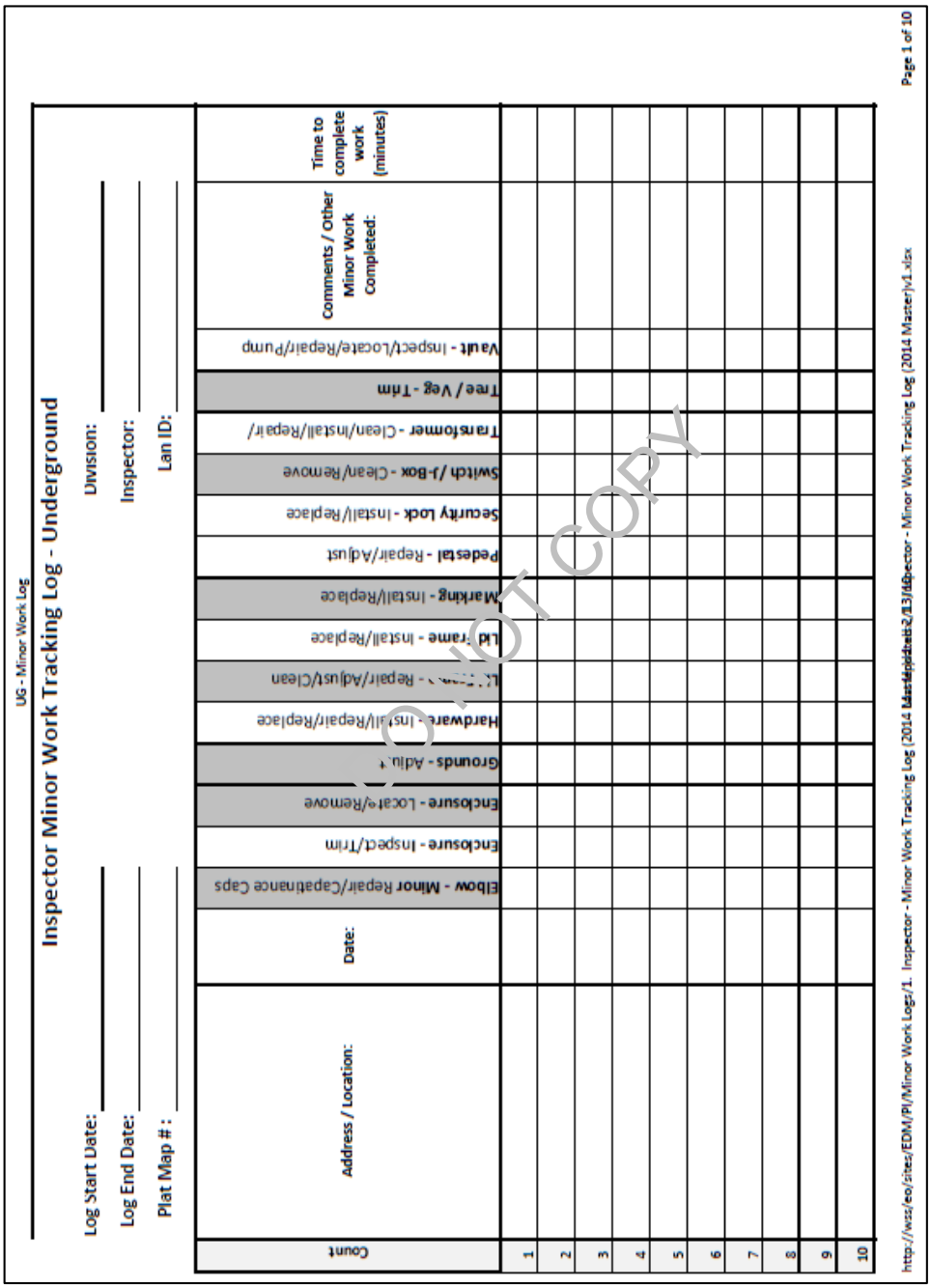
Notes: _____

Two Man Crew: Y / N Job Site Y / N Worked Through Lunch Y / N Lunch Start Time _____ Lunch End Time _____

4. Inspector Minor Work Tracking Log – Overhead



5. Inspector Minor Work Tracking Log – Underground



UG - Minor Work Log

Inspector Minor Work Tracking Log - Underground

Division: _____

Inspector: _____

Lan ID: _____

Log Start Date: _____

Log End Date: _____

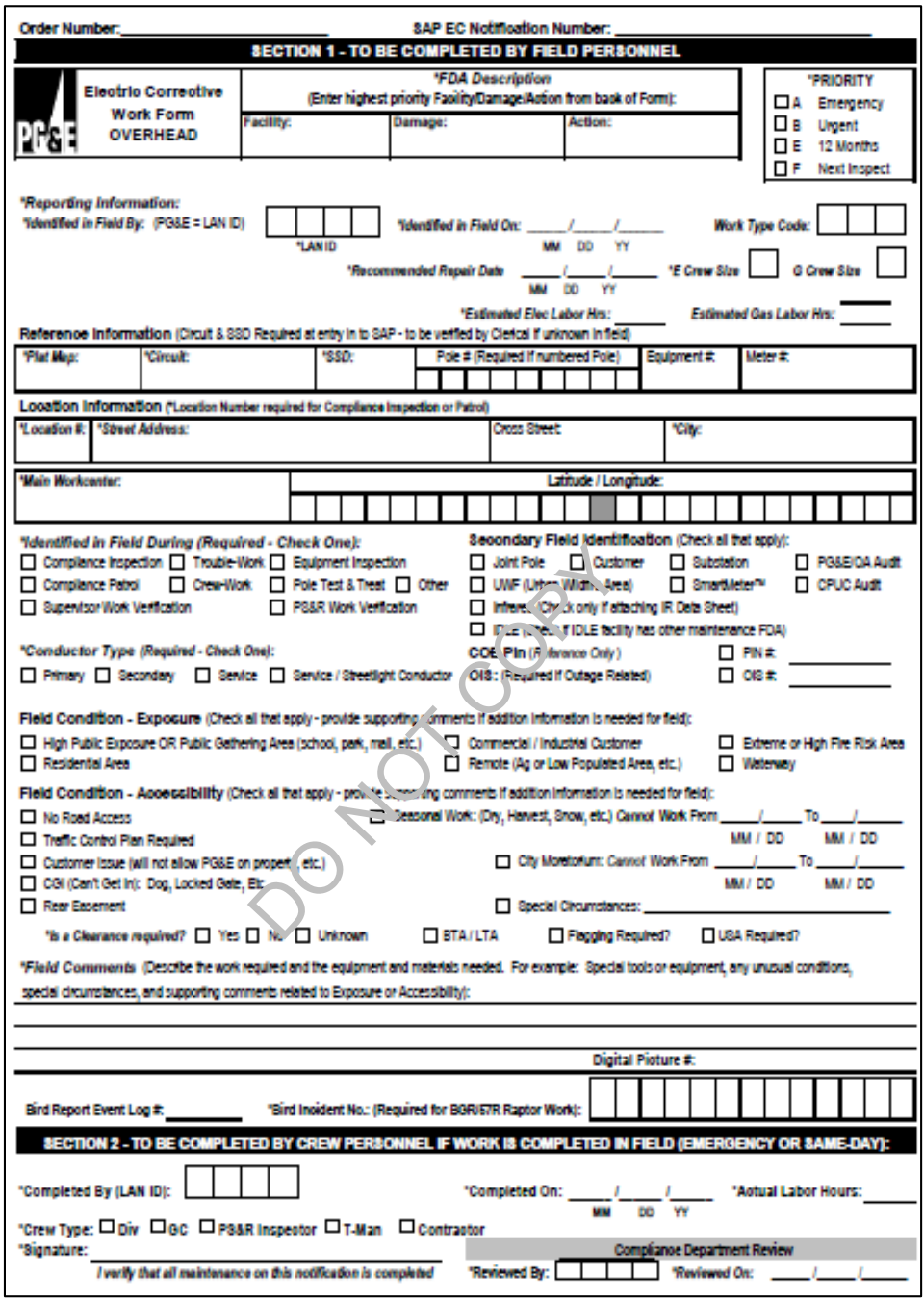
Plat Map # : _____

Count	Address / Location:	Date:	Elbow - Minor Repair/Capatinance Caps	Enclosure - Inspect/Trim	Enclosure - Locate/Remove	Grounds - Adjust	Hardware - Install/Repair/Replace	Lid / Frame - Repair/Adjust/Clean	Lid / Frame - Install/Replace	Marking - Install/Replace	Pedestal - Repair/Adjust	Security Lock - Install/Replace	Switch /J-Box - Clean/Remove	Transformer - Clean/Install/Repair/	Tree / Veg - Trim	Vault - Inspect/Locate/Repair/Pump	Comments / Other Minor Work Completed:	Time to complete work (minutes)
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

http://wss/eo/sites/EDM/PI/Minor Work Logs/1. Inspector - Minor Work Tracking Log (2014 Master)v1.xlsx

Page 1 of 10

6. Electric Corrective Work Form OVERHEAD



Order Number:_____ SAP EC Notification Number: _____

SECTION 1 - TO BE COMPLETED BY FIELD PERSONNEL

PG&E — Electric Corrective Work Form OVERHEAD

*FDA Description (Enter highest priority Facility/Damage/Action from back of Form):
Facility: | Damage: | Action:

*PRIORITY
☐ A Emergency
☐ B Urgent
☐ E 12 Months
☐ F Next Inspect

*Reporting Information:
*Identified in Field By: (PG&E = LAN ID) ☐☐☐☐ *LAN ID
*Identified in Field On: ____/____/____ MM DD YY
Work Type Code: ☐☐☐
*Recommended Repair Date ____/____/____ MM DD YY
*E Crew Size ☐ G Crew Size ☐
*Estimated Elec Labor Hrs: ____ Estimated Gas Labor Hrs: ____

Reference Information (Circuit & SSD Required at entry in to SAP - to be verified by Clerical if unknown in field)
*Plat Map: | *Circuit: | *SSD: | Pole # (Required if numbered Pole) | Equipment #: | Meter #:

Location Information (*Location Number required for Compliance Inspection or Patrol)
*Location #: | *Street Address: | Cross Street: | *City:

*Main Workcenter: | Latitude / Longitude:

*Identified in Field During (Required - Check One):
☐ Compliance Inspection ☐ Trouble-Work ☐ Equipment Inspection
☐ Compliance Patrol ☐ Crew-Work ☐ Pole Test & Treat ☐ Other
☐ Supervisor Work Verification ☐ PS&R Work Verification

Secondary Field Identification (Check all that apply):
☐ Joint Pole ☐ Customer ☐ Substation ☐ PG&E/DA Audit
☐ UWF (Urban/Wildland Area) ☐ SmartMeter™ ☐ CPUC Audit
☐ Infrared (Check only if attaching IR Data Sheet)
☐ IDLE (Check if IDLE facility has other maintenance FDA)

*Conductor Type (Required - Check One):
☐ Primary ☐ Secondary ☐ Service ☐ Service / Streetlight Conductor

COE Pin (Reference Only) ☐ PIN #: _____
OIS: (Required if Outage Related) ☐ OIS #: _____

Field Condition - Exposure (Check all that apply - provide supporting comments if addition information is needed for field):
☐ High Public Exposure OR Public Gathering Area (school, park, mall, etc.) ☐ Commercial / Industrial Customer ☐ Extreme or High Fire Risk Area
☐ Residential Area ☐ Remote (Ag or Low Populated Area, etc.) ☐ Waterway

Field Condition - Accessibility (Check all that apply - provide supporting comments if addition information is needed for field):
☐ No Road Access ☐ Seasonal Work: (Dry, Harvest, Snow, etc.) Cannot Work From ____/____ To ____/____ MM / DD MM / DD
☐ Traffic Control Plan Required
☐ Customer Issue (will not allow PG&E on property, etc.)
☐ City Moratorium: Cannot Work From ____/____ To ____/____ MM / DD MM / DD
☐ CGI (Can't Get In): Dog, Locked Gate, Etc
☐ Rear Easement ☐ Special Circumstances: _____

*Is a Clearance required? ☐ Yes ☐ No ☐ Unknown ☐ BTA / LTA ☐ Flagging Required? ☐ USA Required?

*Field Comments (Describe the work required and the equipment and materials needed. For example: Special tools or equipment, any unusual conditions, special circumstances, and supporting comments related to Exposure or Accessibility):

Digital Picture #:

Bird Report Event Log #: _____ *Bird Incident No.: (Required for BGR/STR Raptor Work): ☐☐☐☐☐☐☐☐☐☐☐☐☐☐

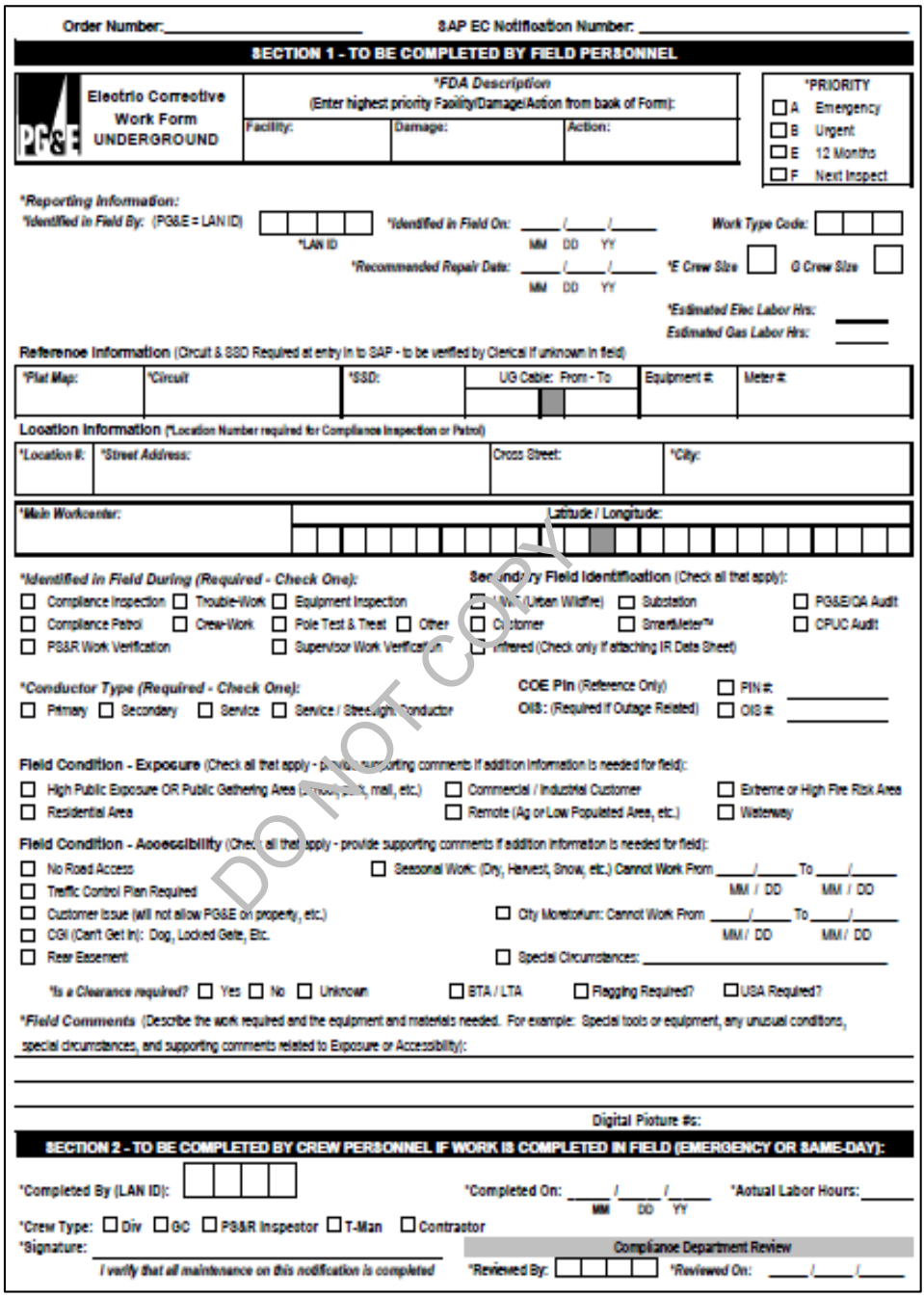
SECTION 2 - TO BE COMPLETED BY CREW PERSONNEL IF WORK IS COMPLETED IN FIELD (EMERGENCY OR SAME-DAY):

*Completed By (LAN ID): ☐☐☐☐
*Completed On: ____/____/____ MM DD YY
*Actual Labor Hours: ____
*Crew Type: ☐ Div ☐ GC ☐ PS&R Inspector ☐ T-Man ☐ Contractor
*Signature: _____
I verify that all maintenance on this notification is completed

Compliance Department Review
*Reviewed By: ☐☐☐☐ *Reviewed On: ____/____/____

DO NOT COPY

7. Electric Corrective Form UNDERGROUND



Order Number:_____ SAP EC Notification Number: _____

SECTION 1 - TO BE COMPLETED BY FIELD PERSONNEL

PG&E **Electric Corrective Work Form UNDERGROUND**

*FDA Description (Enter highest priority Facility/Damage/Action from back of Form):
Facility: | Damage: | Action:

*PRIORITY
☐ A Emergency
☐ B Urgent
☐ E 12 Months
☐ F Next Inspect

*Reporting Information:
*Identified in Field By: (PG&E = LAN ID) ☐☐☐☐ *LAN ID
*Identified in Field On: ____/____/____ MM DD YY
Work Type Code: ☐☐☐
*Recommended Repair Date: ____/____/____ MM DD YY
*E Crew Size ☐ G Crew Size ☐
*Estimated Elec Labor Hrs: ____
Estimated Gas Labor Hrs: ____

Reference Information (Circuit & SSD Required at entry in to SAP - to be verified by Clerical if unknown in field)

*Plat Map:	*Circuit	*SSD:	UG Cable: From - To	Equipment #:	Meter #:

Location Information (*Location Number required for Compliance Inspection or Patrol)

*Location #:	*Street Address:	Cross Street:	*City:

*Main Workcenter: | Latitude / Longitude:

*Identified in Field During (Required - Check One):
☐ Compliance Inspection ☐ Trouble-Work ☐ Equipment Inspection
☐ Compliance Patrol ☐ Crew-Work ☐ Pole Test & Treat ☐ Other
☐ PS&R Work Verification ☐ Supervisor Work Verification

Secondary Field Identification (Check all that apply):
☐ WMP (Urban Wildfire) ☐ Substation ☐ PG&E/QA Audit
☐ Customer ☐ SmartMeter™ ☐ CPUC Audit
☐ Infrared (Check only if attaching IR Data Sheet)

*Conductor Type (Required - Check One):
☐ Primary ☐ Secondary ☐ Service ☐ Service / Streetlight Conductor

COE Pin (Reference Only) ☐ PIN #: ____
OIS: (Required if Outage Related) ☐ OIS #: ____

Field Condition - Exposure (Check all that apply - provide supporting comments if addition information is needed for field):
☐ High Public Exposure OR Public Gathering Area (school, park, mall, etc.)
☐ Residential Area
☐ Commercial / Industrial Customer
☐ Remote (Ag or Low Populated Area, etc.)
☐ Extreme or High Fire Risk Area
☐ Waterway

Field Condition - Accessibility (Check all that apply - provide supporting comments if addition information is needed for field):
☐ No Road Access
☐ Traffic Control Plan Required
☐ Customer Issue (will not allow PG&E on property, etc.)
☐ CGI (Can't Get In): Dog, Locked Gate, Etc.
☐ Rear Easement
☐ Seasonal Work: (Dry, Harvest, Snow, etc.) Cannot Work From ____/____ To ____/____ MM / DD MM / DD
☐ City Moratorium: Cannot Work From ____/____ To ____/____ MM / DD MM / DD
☐ Special Circumstances: ____

*Is a Clearance required? ☐ Yes ☐ No ☐ Unknown ☐ BTA / LTA ☐ Flagging Required? ☐ USA Required?

*Field Comments (Describe the work required and the equipment and materials needed. For example: Special tools or equipment, any unusual conditions, special circumstances, and supporting comments related to Exposure or Accessibility):

Digital Picture #s:

SECTION 2 - TO BE COMPLETED BY CREW PERSONNEL IF WORK IS COMPLETED IN FIELD (EMERGENCY OR SAME-DAY):

*Completed By (LAN ID): ☐☐☐☐
*Completed On: ____/____/____ MM DD YY
*Actual Labor Hours: ____
*Crew Type: ☐ Div ☐ GC ☐ PS&R Inspector ☐ T-Man ☐ Contractor
*Signature: _____
I verify that all maintenance on this notification is completed

Compliance Department Review
*Reviewed By: ☐☐☐☐ *Reviewed On: ____/____/____

8. Map Correction Form

Pacific Gas and Electric Company

Mapping Support
03/2013
TD-9001P-01-F01

Patrol/Inspection Map Correction Form

Inspector Name: _____

Check One: ☐ OH ☐ UG Check One: ☐ Patrol ☐ Inspection Date Pat/Insp: _____

Electric Map Number: _____ Sub[1]: _____ Circuit[1]: _____

Dept.: Compliance Dept. Dept. Ref. Number: _____ Number of Location(s): ____ (See Attached Copy of Electric Map)

Loc#	Location	Check All that Apply:									Other (Describe)
		Wrong Size/Type of Equipment (e.g., transformer, line equipment, valve)	Wrong Size/Type of Conductor, Cable, Main, Service (i.e., pipes and wires)	Facilities Shown in Wrong Location (e.g., wrong distance or dimension from P/L)	Wrong Size/Type of Support Structure or Enclosure (e.g., pole, guy, box, conduit)	Wrong Text Information on Map (not associated with any symbol)	Land Base / Discrepancy (e.g., street or property lines don't match)	Facilities with Incorrect Number (e.g., wrong equipment number, circuit number)	Facilities Added or Removed		
		☐	☐	☐	☐	☐	☐	☐	☐		
		☐	☐	☐	☐	☐	☐	☐	☐		
		☐	☐	☐	☐	☐	☐	☐	☐		
		☐	☐	☐	☐	☐	☐	☐	☐		
		☐	☐	☐	☐	☐	☐	☐	☐		

[1] Not required, but provide information if available.

Received by Mapping: _____ *Mapping Use Only*- PM # _____

Action Taken: _____ Completed By/Date: _____/_____

PG&E Internal Use Information. © 2013 PG&E Corporation. All rights reserved. Page 1 of 1

9. Third Party Non-Utility Notification

Pacific Gas and Electric Company.

TD-20158-F01 (82-3448)
Rev. 03/15
Electric Distribution Standards

THIRD-PARTY NON-UTILITY
NOTIFICATION OF NONCONFORMANCE

PG&E Reference: *(See Note 9 of Instructions)*: _____
PM #: _____ (if applicable to bill Third Party)

The following condition(s) were identified by PG&E during the normal course of business. These condition(s) have been found to negatively impact safety, reliability, asset life, or creates a nonconformance condition on or near PG&E electric facilities.

To:	Date Issued:
Address:	Phone No.:
Location of PG&E Facilities, Including City:	Map No.:
	Pole/Equip No.:

OVERHEAD CONDITIONS — Joint Pole? Yes ☐ No ☐

- ☐ Obstructed Climbing Space at Third-Party Level
- ☐ Unauthorized Attachment on Pole by Third Party
- ☐ Damaged Overhead Facilities
- ☐ Modification of Utility Facilities (Anchor/Guy removed, etc.)
- ☐ Vegetation Hazard, Requires Clearing
- ☐ Grade Modified (Affects Clearance, Setting Depth, etc.)
- ☐ Conductor Clearance Above Ground
- ☐ Other ( )

UNDERGROUND CONDITIONS

- ☐ Inadequate Clearance for Accessibility
- ☐ Grade Modified
- ☐ Vegetation Hazard, Requires Clearing
- ☐ Encroachments
- ☐ Damaged Equipment
- ☐ Other ( )

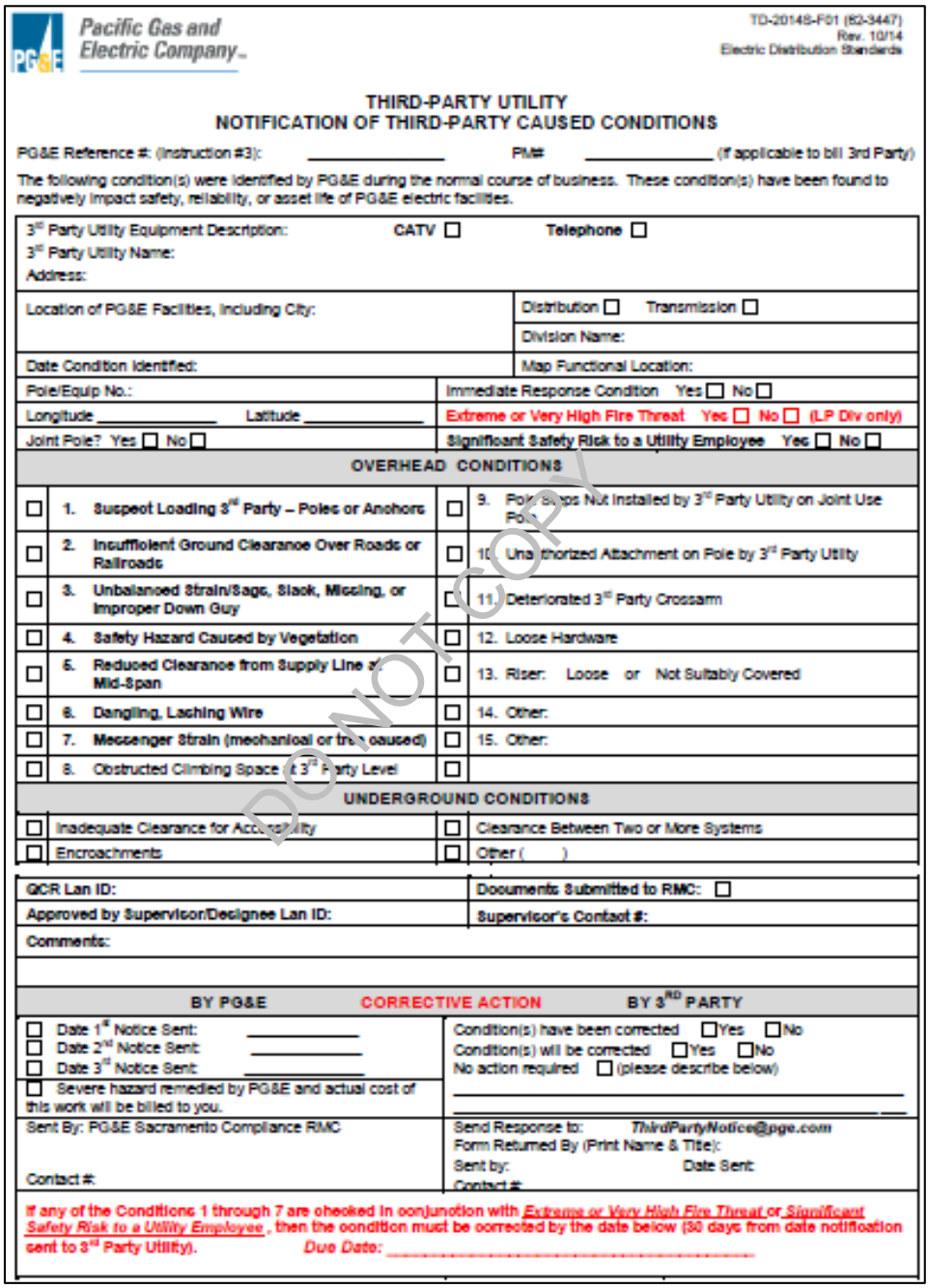
Remark _____

Originator's Name:	Department:	LAN ID:
Title:	Telephone Number:	

CORRECTIVE ACTION

BY PG&E	BY THIRD PARTY	
☐ First Notice Issued On	**Please respond to PG&E within 30 days indicating that you have corrected the condition(s) or the date that the condition(s) will be corrected.**	
☐ Second Notice Issued On		
☐ Severe hazard remedied by PG&E per referenced PM# and actual cost of this work will be billed to you.	☐ Condition(s) Corrected On	
Sent By (Print Name):	☐ Condition(s) Will Be Corrected By	
Title: Public Safety & Regulatory Supervisor (PS&R)	Form Returned By (Print Name):	
Telephone Number:	Date:	Telephone No.:
Address (Street, City, Zip):	**NOTIFICATION CLOSED BY PG&E**	
	By:	
	Title:	Date:

10. Third Party Utility Notification



Pacific Gas and Electric Company

TD-20148-F01 (82-3447)
Rev. 10/14
Electric Distribution Standards

THIRD-PARTY UTILITY
NOTIFICATION OF THIRD-PARTY CAUSED CONDITIONS

PG&E Reference #: (Instruction #3): _____ PM# _____ (If applicable to bill 3rd Party)

The following condition(s) were identified by PG&E during the normal course of business. These condition(s) have been found to negatively impact safety, reliability, or asset life of PG&E electric facilities.

3rd Party Utility Equipment Description: CATV ☐ Telephone ☐ 3rd Party Utility Name: Address:	
Location of PG&E Facilities, including City:	Distribution ☐ Transmission ☐ Division Name:
Date Condition Identified:	Map Functional Location:
Pole/Equip No.:	Immediate Response Condition Yes ☐ No ☐
Longitude _____ Latitude _____	Extreme or Very High Fire Threat Yes ☐ No ☐ (LP Div only)
Joint Pole? Yes ☐ No ☐	Significant Safety Risk to a Utility Employee Yes ☐ No ☐

OVERHEAD CONDITIONS

☐	1. Suspect Loading 3rd Party – Poles or Anchors	☐	9. Pole Steps Not Installed by 3rd Party Utility on Joint Use Pole
☐	2. Insufficient Ground Clearance Over Roads or Railroads	☐	10. Unauthorized Attachment on Pole by 3rd Party Utility
☐	3. Unbalanced Strain/Sags, Slack, Missing, or Improper Down Guy	☐	11. Deteriorated 3rd Party Crossarm
☐	4. Safety Hazard Caused by Vegetation	☐	12. Loose Hardware
☐	5. Reduced Clearance from Supply Line at Mid-Span	☐	13. Riser: Loose or Not Suitably Covered
☐	6. Dangling, Lashing Wire	☐	14. Other:
☐	7. Messenger Strain (mechanical or thermal caused)	☐	15. Other:
☐	8. Obstructed Climbing Space at 3rd Party Level	☐	

UNDERGROUND CONDITIONS

☐	Inadequate Clearance for Accessibility	☐	Clearance Between Two or More Systems
☐	Encroachments	☐	Other ( )

QCR Lan ID:	Documents Submitted to RMC: ☐
Approved by Supervisor/Designee Lan ID:	Supervisor's Contact #:
Comments:	

BY PG&E	CORRECTIVE ACTION	BY 3RD PARTY
☐ Date 1st Notice Sent: _____ ☐ Date 2nd Notice Sent: _____ ☐ Date 3rd Notice Sent: _____ ☐ Severe hazard remedied by PG&E and actual cost of this work will be billed to you.		Condition(s) have been corrected ☐Yes ☐No Condition(s) will be corrected ☐Yes ☐No No action required ☐ (please describe below) _____
Sent By: PG&E Sacramento Compliance RMC Contact #:		Send Response to: ThirdPartyNotice@pge.com Form Returned By (Print Name & Title): Sent by: Date Sent: Contact #:

If any of the Conditions 1 through 7 are checked in conjunction with *Extreme or Very High Fire Threat* or *Significant Safety Risk to a Utility Employee*, then the condition must be corrected by the date below (30 days from date notification sent to 3rd Party Utility). *Due Date:* _____

11. Idle Facility Form

Order #: _____ SAP IF Notification #: _____ Form TD-24583-F01 Rev. 8/13

TO BE COMPLETED BY FIELD PERSONNEL

Idle Facility (IF) Investigation Work Form

OH / UG	Facility	Damage / Action	Transformer Information
OH ☐	Conductor ☐	Damage: Idle Facility	For Transformers Only: Blue Sticker? ☐ Yes ☐ No
UG ☐	Pole ☐	Action: Monitor	Transformer-Type: ☐ OH ☐ PM ☐ SS
	OH Facility ☐		
	Transformer ☐		
	UG Facility ☐		

*Reporting Information:
*Identified in Field By: (PG&E = LAN ID) ☐☐☐☐ *LAN ID
*Identified in Field On: ____/____/____ MM DD YY
*Service Planning Investigation Due Date: ____/____/____ MM DD YY
If Contractor: Enter Last Name, First Name
*Idle Facility Priority ☐ High ☐ Medium ☐ Low

Reference Information (Circuit & SSD Required at entry in to SAP - to be verified by Clerical if unknown in field)

*Plat Map:	*Circuit:	*SSD:	Pole # (Required if numbered Pole)	Equipment #:	Meter #:

Location Information (*Location Number required for Compliance Inspection or Patrol)

*Location #:	*Street Address:	Cross Street:	*City:

*Main Workcenter: | Latitude / Longitude:

*Identified in Field During (Required - Check One): ☐ Compliance Inspection ☐ Compliance Patrol ☐ Equipment Inspection ☐ Other
Secondary Field Identification (Check all that apply): ☐ Joint Pole
*Conductor Type (Required - Check One): ☐ Primary ☐ Secondary ☐ Service
☐ UWF (Urban Wildfire Area)

If a facility is found energized and any of the boxed Field Conditions below are checked, write 2 tags as follows:

1) OH EC Notification to de-energize, Priority E, with a 1-month duration
2) Idle Facility Work Form for Investigation

Check All Field Conditions That Apply:

- ☐ Safety conditions where de-energizing is needed to mitigate hazard
- ☐ Idle Facilities in raptor concentration zones with suitable habitat to support threatened or endangered raptors
- ☐ All Primary tap lines are identified on line and are un-fused
- ☐ Potential use for agricultural pumps or vacant building
- ☐ Future work required to maintain existing idle facility EC Notification #: _____
- ☐ Modesto Irrigation District Service Area

Temporarily Out of Service (TOS) and Temporary Idle Facility (TIF):

- ☐ Potential agricultural use : ☐ (TOS-AG) If de-energized or ☐ (TIF-AG) If energized
- ☐ Potential service to an existing (vacant) building: ☐ (TOS-V) If de-energized or ☐ (TIF-V) If energized

If facility is oil filled, check all field conditions that apply:

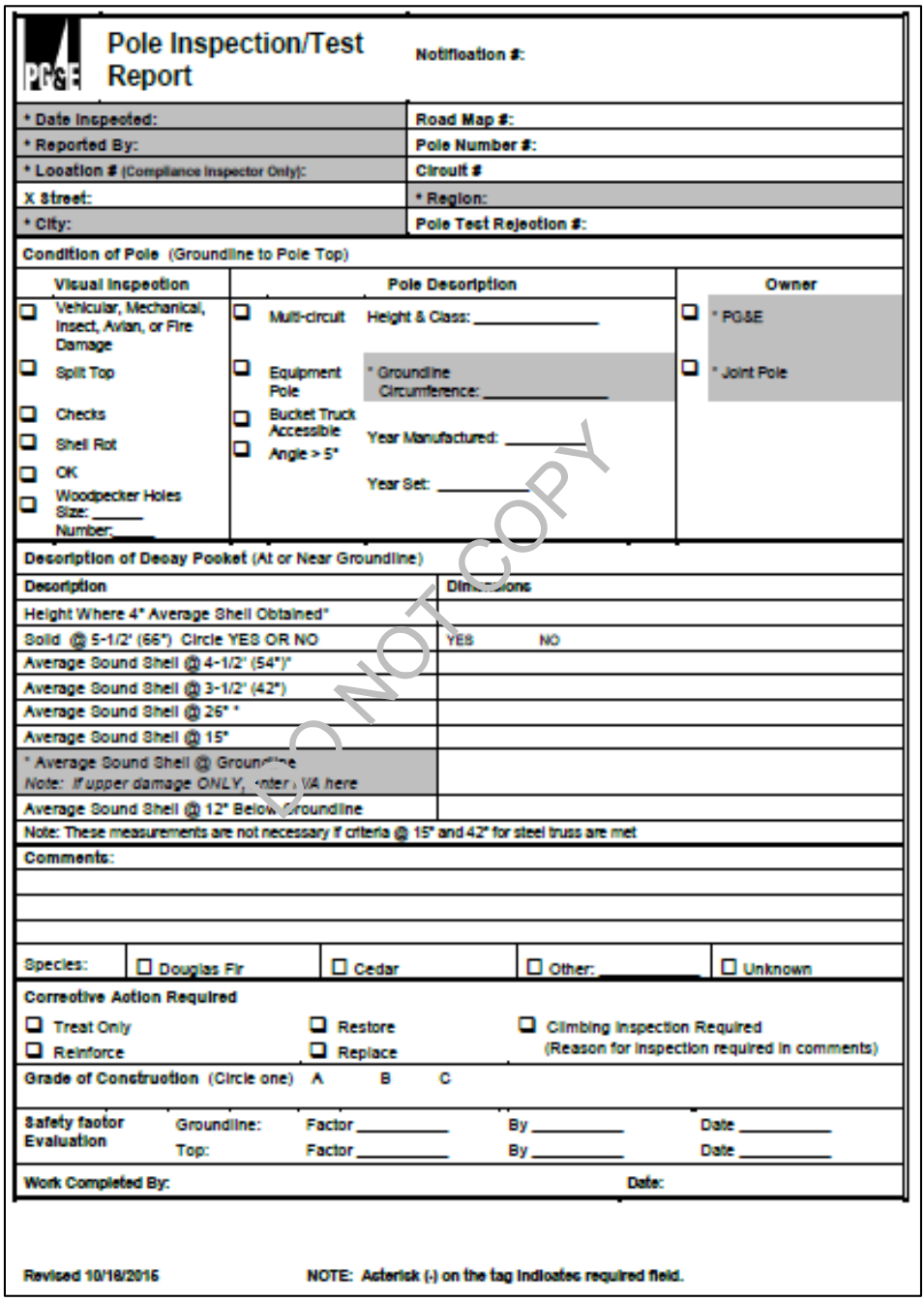
- ☐ Surface or ground waters
- ☐ Sewers or sewage treatment systems
- ☐ Day-care centers or schools
- ☐ Grazing lands, agriculture areas or vegetable gardens
- ☐ Private or public water sources or distribution systems
- ☐ None of the above conditions apply

*Field Comments:

Compliance Department Review

Signature: _____ *Reviewed By: ☐☐☐☐ *Reviewed On: ____/____/____ MM DD YY

12. Pole Inspection/Test Report



Pole Inspection/Test Report

Notification #:

* Date Inspected:	Road Map #:
* Reported By:	Pole Number #:
* Location # (Compliance Inspector Only):	Circuit #
X Street:	* Region:
* City:	Pole Test Rejection #:

Condition of Pole (Groundline to Pole Top)

Visual Inspection	Pole Description	Owner
☐ Vehicular, Mechanical, Insect, Avian, or Fire Damage	☐ Multi-circuit Height & Class: _____	☐ * PG&E
☐ Split Top	☐ Equipment Pole * Groundline Circumference: _____	☐ * Joint Pole
☐ Checks	☐ Bucket Truck Accessible	
☐ Shell Rot	☐ Angle > 5° Year Manufactured: _____	
☐ OK	Year Set: _____	
☐ Woodpecker Holes Size: _____ Number: _____		

Description of Decay Pocket (At or Near Groundline)

Description	Dimensions
Height Where 4" Average Shell Obtained"	
Solid @ 5-1/2' (66") Circle YES OR NO	YES NO
Average Sound Shell @ 4-1/2' (54")"	
Average Sound Shell @ 3-1/2' (42")	
Average Sound Shell @ 26" "	
Average Sound Shell @ 15"	
* Average Sound Shell @ Groundline *Note: If upper damage ONLY, enter NA here*	
Average Sound Shell @ 12" Below Groundline	

Note: These measurements are not necessary if criteria @ 15" and 42" for steel truss are met

Comments:

Species: ☐ Douglas Fir ☐ Cedar ☐ Other: _____ ☐ Unknown

Corrective Action Required

☐ Treat Only ☐ Restore ☐ Climbing Inspection Required
☐ Reinforce ☐ Replace (Reason for inspection required in comments)

Grade of Construction (Circle one) A B C

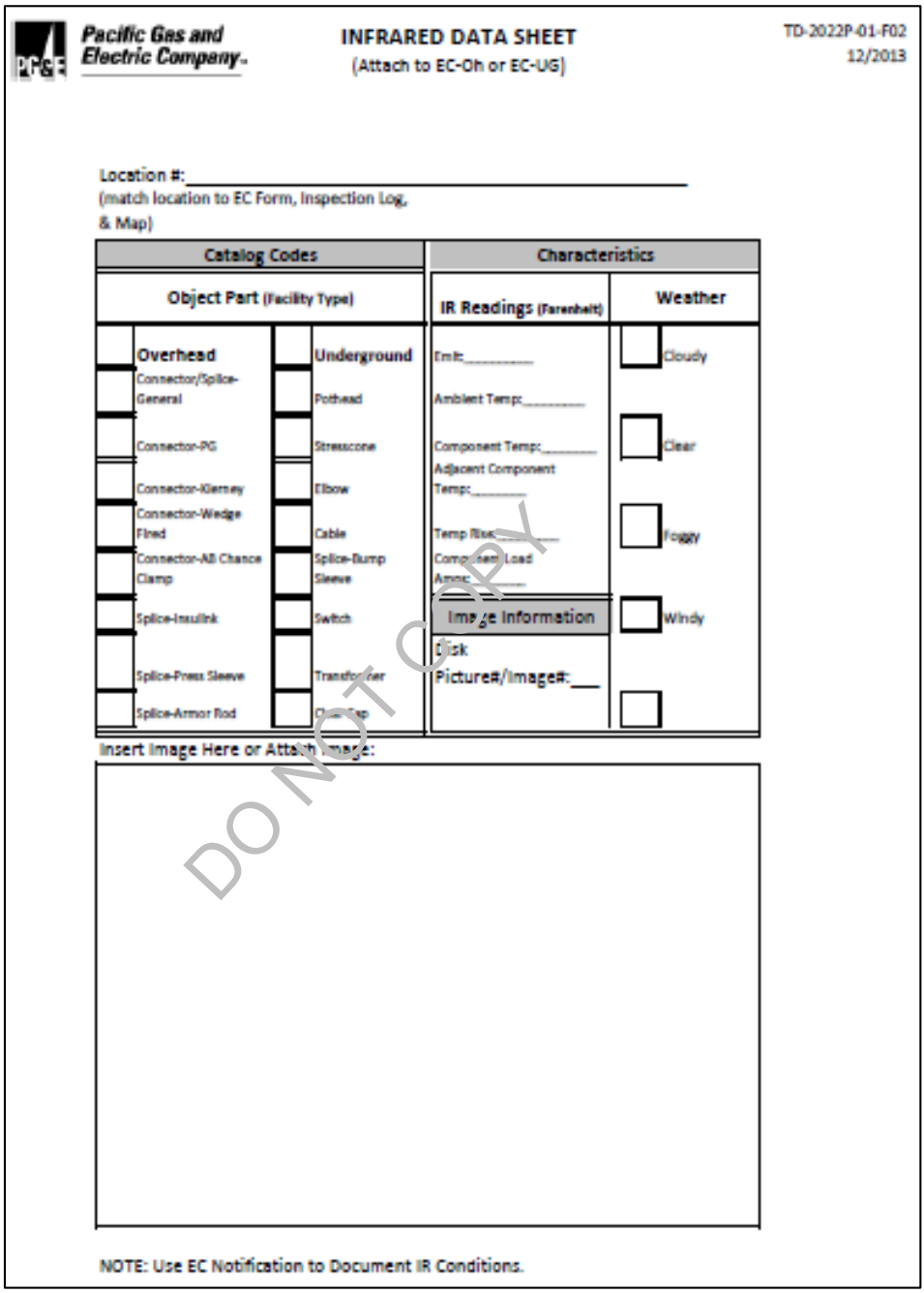
Safety factor Evaluation

Groundline: Factor _____ By _____ Date _____
Top: Factor _____ By _____ Date _____

Work Completed By: **Date:**

Revised 10/18/2015 NOTE: Asterisk (*) on the tag indicates required field.

13. Infrared Data Sheet



Pacific Gas and Electric Company

INFRARED DATA SHEET
(Attach to EC-Oh or EC-UG)

TD-2022P-01-F02
12/2013

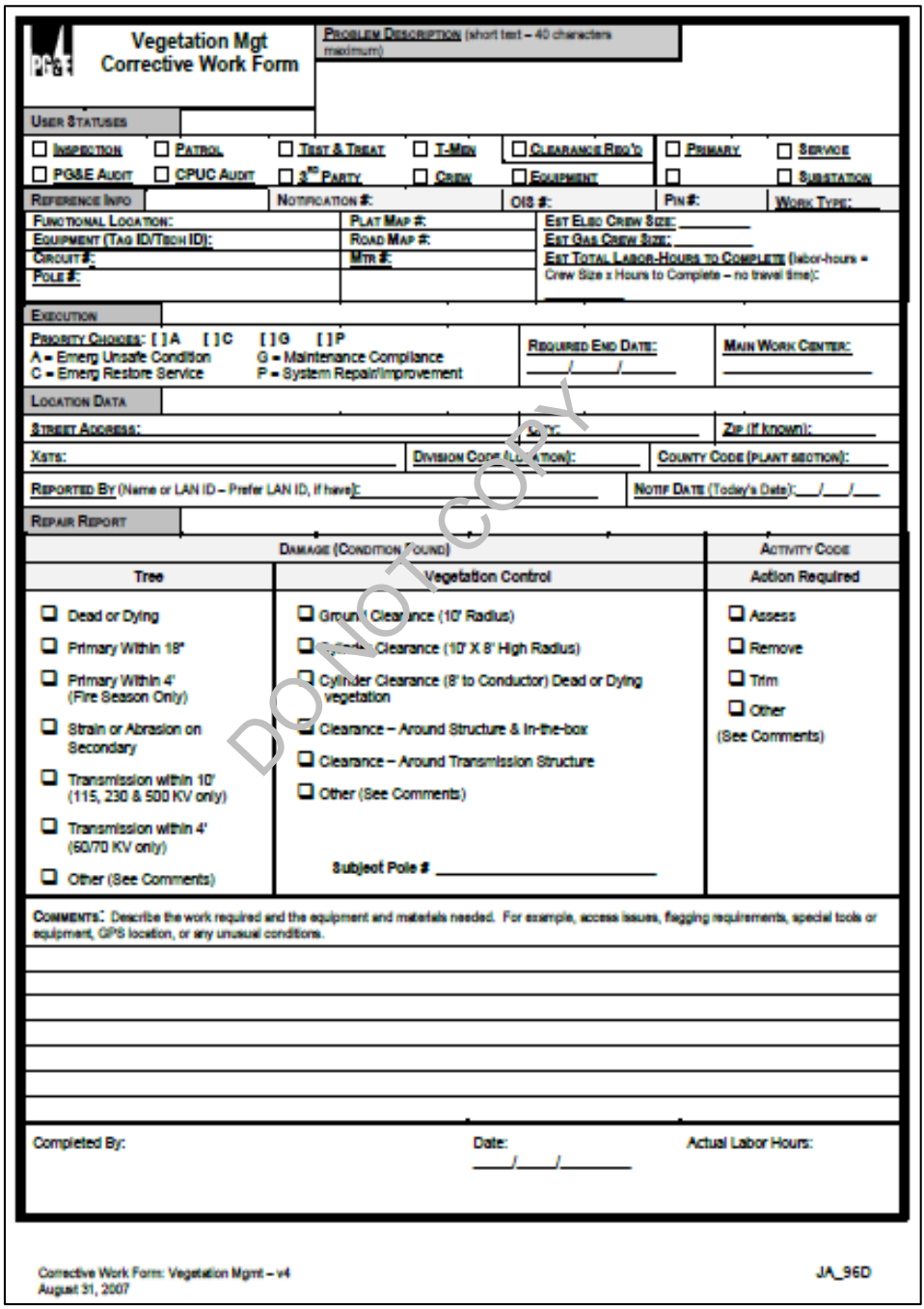
Location #:_____
(match location to EC Form, Inspection Log, & Map)

Catalog Codes		Characteristics	
Object Part (Facility Type)		IR Readings (Farenheit)	Weather
☐ Overhead	☐ Underground	Emit:_____	☐ Cloudy
☐ Connector/Splice-General	☐ Pothead	Ambient Temp:_____	
☐ Connector-PG	☐ Stresscone	Component Temp:_____	☐ Clear
☐ Connector-Kierney	☐ Elbow	Adjacent Component Temp:_____	
☐ Connector-Wedge Fined	☐ Cable	Temp Rise:_____	☐ Foggy
☐ Connector-AB Chance Clamp	☐ Splice-Bump Sleeve	Component Load Amps:_____	
☐ Splice-Insulink	☐ Switch	Image Information	☐ Windy
☐ Splice-Press Sleeve	☐ Transformer	Disk Picture#/Image#:___	
☐ Splice-Armor Rod	☐ Clamp		☐

Insert Image Here or Attach Image:

NOTE: Use EC Notification to Document IR Conditions.

14. Vegetation Mgt Notification



Vegetation Mgt Corrective Work Form

Problem Description (short text – 40 characters maximum)

User Statuses

☐ Inspection ☐ Patrol ☐ Test & Treat ☐ T-Men ☐ Clearance Req'd ☐ Primary ☐ Service
☐ PG&E Audit ☐ CPUC Audit ☐ 3rd Party ☐ Crew ☐ Equipment ☐ ☐ Substation

Reference Info | Notification #: | OIS #: | PIN #: | Work Type:

Functional Location: | Plat Map #: | Est Elec Crew Size: _____
Equipment (Tag ID/Tech ID): | Road Map #: | Est Gas Crew Size: _____
Circuit #: | Mtr #: | Est Total Labor-Hours to Complete (labor-hours = Crew Size x Hours to Complete – no travel time):
Pole #:

Execution

Priority Choices: [ ] A [ ] C [ ] G [ ] P
A = Emerg Unsafe Condition G = Maintenance Compliance
C = Emerg Restore Service P = System Repair/Improvement

Required End Date: ___/___/___ | Main Work Center:

Location Data

Street Address: | City: | Zip (if known):
Xsts: | Division Code (Location): | County Code (plant section):
Reported By (Name or LAN ID – Prefer LAN ID, if have): | Notif Date (Today's Date): ___/___/___

Repair Report

Damage (Condition Found) | Activity Code

Tree	Vegetation Control	Action Required
☐ Dead or Dying	☐ Ground Clearance (10' Radius)	☐ Assess
☐ Primary Within 18"	☐ [illegible] Clearance (10' X 8' High Radius)	☐ Remove
☐ Primary Within 4' (Fire Season Only)	☐ Cylinder Clearance (8' to Conductor) Dead or Dying vegetation	☐ Trim
☐ Strain or Abrasion on Secondary	☐ Clearance – Around Structure & In-the-box	☐ Other (See Comments)
☐ Transmission within 10' (115, 230 & 500 KV only)	☐ Clearance – Around Transmission Structure	
☐ Transmission within 4' (60/70 KV only)	☐ Other (See Comments)	
☐ Other (See Comments)	Subject Pole # _____	

Comments: Describe the work required and the equipment and materials needed. For example, access issues, flagging requirements, special tools or equipment, GPS location, or any unusual conditions.

Completed By: | Date: ___/___/___ | Actual Labor Hours:

Corrective Work Form: Vegetation Mgmt – v4
August 31, 2007

JA_96D

15. Vault Discharge Report (VDR) Form

Pacific Gas and Electric Company

Vault Discharge Report (VDR) Form

Place Discharge Use Tracker sticker here[1]

Note: Only trained personnel may conduct vault discharge activities/spill response/spill cleanup. If needed, contact your local Environmental Field Specialist (EFS) for assistance. After hours, call (800) 874-4043. You must contact EFS to report spills, threatened releases, or discharge of clear water exceeding 10,000 gallons.

Name & LAN ID (person dewatering):

Date: Dewatering start time: Employee Supervisor:

City: County:

Site Address or Latitude/Longitude:

Onsite Reference (e.g. vault, manhole, or station number):

1.) Inspect the integrity of the vault and lid (cracks, leaks):

- Is there damage to vault structure? ☐ No ☐ Yes
- Is there an Automatic Sump Pump (ASP)? ☐ No ☐ Yes
- If yes, is ASP leak-free and functioning properly: ☐ No ☐ Yes ☐ N/A

2.) Inspect vault water surface to evaluate oil contamination and potential for PCBs:

- Is there an oil layer? ☐ No ☐ Yes
- Is there a heavy oil (rainbow) sheen? ☐ No ☐ Yes
- Is there a light oil (rainbow) sheen and potential for PCBs?[3] ☐ No ☐ Yes
- Is there a light oil (rainbow) sheen (no PCB potential)? ☐ No ☐ Yes

If any of these "Yes" boxes are selected, skip Step 3 and proceed to 'Red Zone'

3.) Collect sample and evaluate vault water:

While wearing protective gloves, collect a sample of the vault water.

Wait 5 minutes and record observations below.

GREEN Indicator Zone

If ALL boxes checked are in this column, then discharge category is GREEN

RED Indicator Zone

If ANY box is checked in this column, then discharge category is RED[5]

Sample Characteristic	Light/None	Heavy
Cloudiness	☐	—[2]
Soil Particles	☐	☐
Discoloration	☐	☐
	No	**Yes**
Chemical odor	☐	☐
Sewage	☐	☐
Asphalt tar	☐	☐
Other	☐	☐

GREEN ZONE – OKAY TO DISCHARGE

Place Discharge Use Tracker sticker on VDR form.

Discharge vault water through filter sock.

Monitor discharge and note observations in Comments section below.

Estimated gallons of water discharged:

- ☐ <100 (tub)
- ☐ 100-1,000
- ☐ 1000-5000 (vac truck)
- ☐ 5000-10,000
- ☐ 10,000-50,000[4]

Discharged to:[5]

- ☐ Storm drain
- ☐ Waterway

RED ZONE – DO NOT DISCHARGE

The vault liquids must be containerized and characterized for disposal.

EFS contacted:

Containerized by:

- ☐ Vacuum truck
- ☐ 50-gallon drums
- ☐ Portable tank

Estimated containerized volume (gallons):

Note any other actions or anomalies in 'Comments'

Comments:

[1] If filling out the VDR form digitally, type information from the Discharge Use Tracker sticker here. When no stickers remain on the filter sock, dispose of the sock properly and use a new filter sock.

[2] Cloudiness does not place sample in the Red Zone. Note in Comments if heavy cloudiness

[3] Equipment manufactured before January 1, 1985, or date is unknown, may contain PCBs. If water from a vault containing pre-1985 equipment has an oil sheen, it is not to be discharged.

[4] For liquid volumes greater than 10,000 gallons, you must contact EFS prior to discharging.

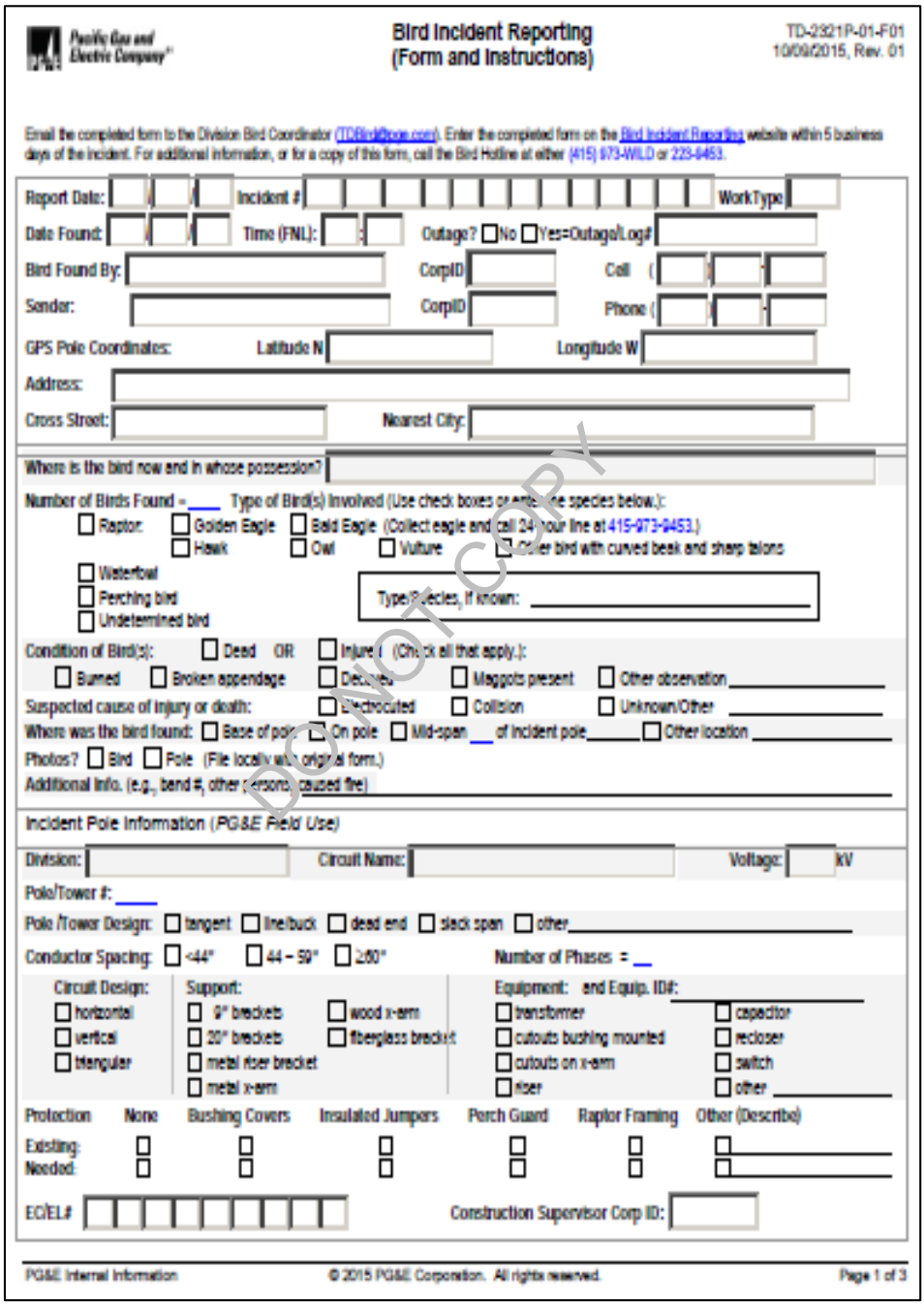
[5] If there is no storm drain or waterway available for discharge, then vault water must be containerized.

Send completed form within 7 days to:

Vault Discharge Program Manager
3401 Crow Canyon Road
San Ramon, CA 94583

or send via email to: vaultdischarge@pge.com

16. Bird Incident Form



Pacific Gas and Electric Company

Bird Incident Reporting
(Form and Instructions)

TD-2321P-01-F01
10/09/2015, Rev. 01

Email the completed form to the Division Bird Coordinator (TDBird@pge.com). Enter the completed form on the Bird Incident Reporting website within 5 business days of the incident. For additional information, or for a copy of this form, call the Bird Hotline at either (415) 973-WILD or 223-9453.

Report Date: / / Incident # Work Type
Date Found: / / Time (FNL): : Outage? ☐ No ☐ Yes=Outage/Log#
Bird Found By: CorpID Cell ( ) -
Sender: CorpID Phone ( ) -
GPS Pole Coordinates: Latitude N Longitude W
Address:
Cross Street: Nearest City:

Where is the bird now and in whose possession?

Number of Birds Found = ____ Type of Bird(s) Involved (Use check boxes or enter species below.):
☐ Raptor: ☐ Golden Eagle ☐ Bald Eagle (Collect eagle and call 24 hour line at 415-973-9453.)
☐ Hawk ☐ Owl ☐ Vulture ☐ Other bird with curved beak and sharp talons
☐ Waterfowl
☐ Perching bird
☐ Undetermined bird
Type/Species, if known: _____

Condition of Bird(s): ☐ Dead OR ☐ Injured (Check all that apply.):
☐ Burned ☐ Broken appendage ☐ Decayed ☐ Maggots present ☐ Other observation _____
Suspected cause of injury or death: ☐ Electrocuted ☐ Collision ☐ Unknown/Other _____
Where was the bird found: ☐ Base of pole ☐ On pole ☐ Mid-span __ of incident pole ____ ☐ Other location _____
Photos? ☐ Bird ☐ Pole (File locally with original form.)
Additional Info. (e.g., band #, other circumstances, caused fire) _____

Incident Pole Information (*PG&E Field Use*)

Division: Circuit Name: Voltage: kV
Pole/Tower #: ____
Pole /Tower Design: ☐ tangent ☐ line/buck ☐ dead end ☐ slack span ☐ other _____
Conductor Spacing: ☐ <44" ☐ 44 – 59" ☐ ≥60" Number of Phases = __

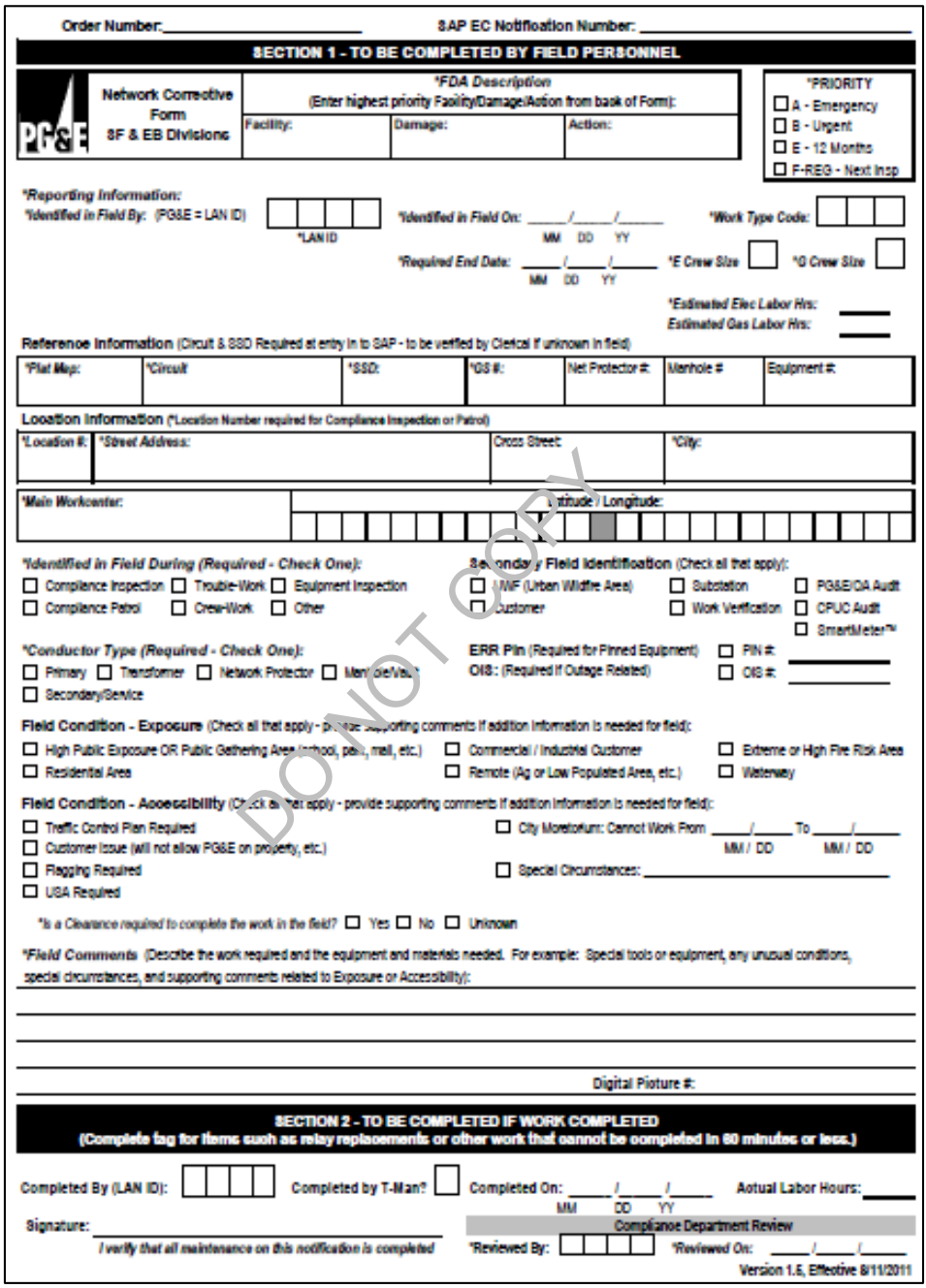
Circuit Design:	Support:		Equipment: and Equip. ID#:	
☐ horizontal	☐ 9" brackets	☐ wood x-arm	☐ transformer	☐ capacitor
☐ vertical	☐ 20" brackets	☐ fiberglass bracket	☐ cutouts bushing mounted	☐ recloser
☐ triangular	☐ metal riser bracket		☐ cutouts on x-arm	☐ switch
	☐ metal x-arm		☐ riser	☐ other _____

Protection	None	Bushing Covers	Insulated Jumpers	Perch Guard	Raptor Framing	Other (Describe)
Existing:	☐	☐	☐	☐	☐	☐ _____
Needed:	☐	☐	☐	☐	☐	☐ _____

EC/EL#: Construction Supervisor Corp ID:

PG&E Internal Information © 2015 PG&E Corporation. All rights reserved. Page 1 of 3

17. Network Corrective forms (SF & EB Divisions)



Order Number:_____ SAP EC Notification Number: _____

SECTION 1 - TO BE COMPLETED BY FIELD PERSONNEL

PG&E — Network Corrective Form SF & EB Divisions

*FDA Description (Enter highest priority Facility/Damage/Action from back of Form):
Facility: | Damage: | Action:

*PRIORITY
☐ A - Emergency
☐ B - Urgent
☐ E - 12 Months
☐ F-REG - Next Insp

*Reporting Information:
*Identified in Field By: (PG&E = LAN ID) ☐☐☐☐ *LAN ID
*Identified in Field On: ____/____/____ MM DD YY
*Work Type Code: ☐☐☐
*Required End Date: ____/____/____ MM DD YY
*E Crew Size ☐ *G Crew Size ☐
*Estimated Elec Labor Hrs: ____
Estimated Gas Labor Hrs: ____

Reference Information (Circuit & SSD Required at entry in to SAP - to be verified by Clerical if unknown in field)

*Flat Map:	*Circuit	*SSD:	*GS #:	Net Protector #:	Manhole #	Equipment #:

Location Information (*Location Number required for Compliance Inspection or Patrol)

*Location #:	*Street Address:	Cross Street:	*City:

*Main Workcenter:	Latitude / Longitude:

*Identified in Field During (Required - Check One):
☐ Compliance Inspection ☐ Trouble-Work ☐ Equipment Inspection
☐ Compliance Patrol ☐ Crew-Work ☐ Other

Secondary Field Identification (Check all that apply):
☐ WMP (Urban Wildfire Area) ☐ Substation ☐ PG&E/DA Audit
☐ Customer ☐ Work Verification ☐ CPUC Audit
☐ SmartMeter™

*Conductor Type (Required - Check One):
☐ Primary ☐ Transformer ☐ Network Protector ☐ Manhole/Vault
☐ Secondary/Service

ERR Pin (Required for Pinned Equipment) ☐ PIN #: ____
OIS: (Required if Outage Related) ☐ OIS #: ____

Field Condition - Exposure (Check all that apply - provide supporting comments if addition information is needed for field):
☐ High Public Exposure OR Public Gathering Area (school, park, mall, etc.)
☐ Residential Area
☐ Commercial / Industrial Customer
☐ Remote (Ag or Low Populated Area, etc.)
☐ Extreme or High Fire Risk Area
☐ Waterway

Field Condition - Accessibility (Check all that apply - provide supporting comments if addition information is needed for field):
☐ Traffic Control Plan Required
☐ Customer Issue (will not allow PG&E on property, etc.)
☐ Flagging Required
☐ USA Required
☐ City Moratorium: Cannot Work From ____/____ To ____/____ MM / DD MM / DD
☐ Special Circumstances: _____

*Is a Clearance required to complete the work in the field? ☐ Yes ☐ No ☐ Unknown

*Field Comments (Describe the work required and the equipment and materials needed. For example: Special tools or equipment, any unusual conditions, special circumstances, and supporting comments related to Exposure or Accessibility):

Digital Picture #:

SECTION 2 - TO BE COMPLETED IF WORK COMPLETED
(Complete tag for items such as relay replacements or other work that cannot be completed in 60 minutes or less.)

Completed By (LAN ID): ☐☐☐☐ Completed by T-Man? ☐ Completed On: ____/____/____ MM DD YY Actual Labor Hours: ____

Signature: _____
I verify that all maintenance on this notification is completed

Compliance Department Review
*Reviewed By: ☐☐☐☐ *Reviewed On: ____/____/____

Version 1.5, Effective 8/11/2011

18. Field Paving Form

Pacific Gas and Electric Company

Field Paving Form

Permit Number: _____
Permit Expiration Date: _____

Date: _____ Street Address: _____

Foreman Name: _____ Cross Street: _____

PM Number: _____ City/County: _____

Concrete	W x L		Depth	
Roadway			___ inches	
Sidewalk			___ inches	Color: Y / N | Aggregate: Y / N | Decorative/Stamped: Y / N
Sidewalk			___ inches	Color: Y / N | Aggregate: Y / N | Decorative/Stamped: Y / N
Driveway			___ inches	Color: Y / N | Aggregate: Y / N | Decorative/Stamped: Y / N
Driveway			___ inches	Color: Y / N | Aggregate: Y / N | Decorative/Stamped: Y / N
Curb Ramp			Domes: Y / N	
Curb		lf	Gutter: Y / N	
Valley Gutter		lf		
Dowels		ea	Size: #4 | #5	

Asphalt	W x L		Depth
Asphalt			___ inches
Mill & Fill			___ inches
Asphalt / Concrete Combo			___" over ___"
Grind			___ inches
Asphalt Fabric			
Asphalt Berm / Curb		lf	

Adjust/Replace			
Manhole Frame		ea	
Sidewalk Gas Valve Box		ea	
Secondary Electrical Box		ea	13" x 24" | 17" x 30" | 24" x 36"
Valve Frame		ea	15" | 23"
Valve Cover		ea	30" x 30" | 32" x 32" | 48" x 48"

Saw Cut			Depth
Asphalt		lf	___ inches
Concrete		lf	___ inches

Other	W x L		
Place Paver / Stone / Brick			In Concrete: Y / N
Traffic Marker Dots		ea	Reflective: Y / N
Plug 1 ½" Gas Prospect Hole		ea	Concrete | Asphalt

Seal	W x L
Slurry / Fog / Sand	

Striping			Width
Paint		lf	___ inches
Thermoplastic		lf	___ inches
Traffic Legend		ea	
Double Center Lane		lf	
3M "Scotch Lane"		lf	4" | 8" | 12" Crosswalk

Notes

_____
_____
_____
_____
_____

This page is reserved for future updates.

Glossary of Terms

Definitions

Abrasion: For the purpose of inspections and patrols, abrasion is damage to the insulation resulting from friction between a tree and a conductor. Scuffing or polishing of the conductor insulation is not considered abrasion.

Compelling Abnormal Condition: A condition that impacts or has the potential to adversely impact safety or service reliability and must be corrected within 12 months. Typically, these are conditions where the facility is not or may not be available to perform the function for which it was installed**.**

Centralized Gatekeeper: A person responsible for the review and validation of all new non-emergency EC Notifications to confirm they meet the requirements as per the EDPM manual and all associated Job Aids.

Compliance Inspector: A Company representative, who by reason of knowledge, required annual training, testing, and work experience, is qualified to perform patrol and inspection duties as identified in this manual.

Condition Assessment: A determination by a qualified employee of an abnormal or hazardous condition that identifies the appropriate level of response, the required maintenance, and a reasonable schedule to plan, design, and complete the required work.

Corrective Maintenance: Maintenance activities that restore facilities that have failed or contributed to an unacceptable operating condition, typically following an unusual and unforeseen incident. These may include assessment, repair, and replacement activities associated with the restoration of the facility.

Detailed Inspection: A thorough examination of individual components, structures, and equipment through visual observation and/or routine diagnostic tests.

Distribution Facilities: Any conductors, structures, and associated equipment that operate at voltages up to 50,000 volts.

EC (Electric Corrective) Notification: The SAP record that holds the data identifying a compelling abnormal or regulatory condition.

EC (Electric Corrective) Work Form: Form used to document Compelling Abnormal or Regulatory Conditions that impact safety or service reliability. Separate forms are available for overhead, underground, infrared, and vegetation.

Electric Maintenance Patrol/Inspection Daily Log: A form or electronic record used to document inspections and identified abnormalities that require correction, follow-up inspection, or referral to other departments or entities.

Emissivity: The relative ability of a surface to emit heat by radiation. Emissivity is the ratio of the heat emitted by a surface compared to that emitted by a blackbody.

Emittance Value: The ratio of the intensity of thermal radiation, at a given wavelength or spectral waveband, from a target to the thermal radiation emitted by a blackbody of the same temperature as the target.

Equipment Testing: Visual examination and/or diagnostic testing of electric distribution equipment to ensure that the components will continue to perform within accepted parameters.

FDA: Facility/Damage/Action. Used to describe the facility that is affected, the condition that was observed and the action to address the condition.

Field Automation System (FAS): A computerized program used to dispatch customer cases to field service representatives.

Forms Catalogue: A list of blank forms used by Compliance Inspectors to record field activity and to document compelling abnormal conditions, regulatory conditions, and third-party infractions.

Identified Maintenance Condition: An identified condition on the Company's electric distribution facilities that requires maintenance.

Idle Facility Investigation Work Form: Form used to begin the Idle facility investigation process.

Infrared Inspection: A special type of diagnostic test using infrared thermography.

Inspection: A visual examination of applicable utility facilities (components, equipment, and structures) to look for abnormalities or circumstances that will adversely impact safety, service reliability, or asset life. This will include only the exterior examination of equipment, components, and visible underground secondary/services substructures. (For "detailed inspection" or "patrol," see the specific definitions in this section.)

Inspection Map: A map of electric facilities with adequate detail to sufficiently record facilities, equipment, and structures that have been inspected.

Interval: A specified, maximum time period between inspections, patrols, or equipment testing of overhead and underground electric distribution facilities.

Maintenance: Preventive or corrective actions to ensure the safety and reliability of electric distribution facilities. Maintenance includes capital and expense expenditures for tasks associated with the inspection, repair, refurbishment, and possible replacement of existing electric distribution facilities so that they can continue to perform within acceptable parameters.

Minor Work: Work that can be accomplished safely and efficiently at the site of the electric distribution facility by a QCR.

Minor Work Tracking Log: A log where the inspector records all minor work completed during inspections or patrols including type of minor work and time spent performing minor work.

Operational Inspection: A thorough examination of individual components and/or equipment through visual observation during routine diagnostic tests.

Overhead Facilities: Electric distribution conductors, components, structures, and associated equipment constructed above ground level.

Patrol: A simple, visual examination of applicable utility facilities (equipment and structures) to identify obvious structural problems and hazards. Patrols may be carried out in the course of other Company business, provided certain requirements are met. An emergency patrol performed at night, usually precipitated by an unusual system incident, **must not** be considered as, or substituted for, a "patrol" of electric distribution facilities.

Patrol Map: A map of electric facilities with adequate detail to sufficiently identify the overhead and underground equipment and structures that were patrolled.

Preventive Maintenance: Activities to ensure those facilities and their associated components continue to perform within accepted parameters. This may include patrol and inspection of facilities.

Priority: Refers to the urgency to perform repairs identified in a notification.

Qualified Company Representative (QCR): A Company representative, who by reason of knowledge, required training, and work experience, can accurately perform the required/assigned task on electric distribution facilities.

Regulatory Conditions: Abnormal conditions required to be identified and resolved as defined on the back of the EC Work From.

Radiate: To emit. When an object radiates, it emits or sends out electromagnetic waves.

Reference Temperature: The temperature of a like piece of equipment at the same location as that registering the apparatus ("fault") temperature.

Safety Conditions: Conditions where a known or probable hazardous condition is present and the probability exists of personal injury to third parties or Company employees, property damage, or the release of contaminants to the environment.

SAP Program: The current, established, centralized computer system that tracks maintenance work on the electric distribution system.

Service Reliability (conditions affecting): Conditions where customers are either without service or are receiving a level of service outside of Electric Rule 2 limits and the probability exists for the failure of Company facilities, resulting in an interruption of service to customers. Also, the term refers to conditions where Company facilities are in an abnormal position.

Stain / Residual Stain: A mark on the equipment that appears dry.

Strain: For the purpose of inspections and patrols, strain is defined as additional tension often causing a deflection of a wire beyond the slack of its span. Strain is often caused by third-party and joint pole tenants. Contact between tree limbs and conductors, in and of themselves, does not constitute strain.

Temperature Rise (or Temperature Differential): The difference in temperature between the apparatus (“fault”) temperature and the reference temperature.

Testing: A method or process used in conducting an examination or trial to obtain an indicator, along with recording the data from the event.

Thermography: Any photographic, videotaped, computer-generated, or graphic record of information derived from an infrared inspection.

Third-Party Non-Utility: A form used to notify violators of their infractions.

Third-Party Utility: A form used to notify utility companies of their infractions.

Underground Facilities: Electric distribution conductors, components, structures, and associated equipment constructed at or below ground level, including pad-mounted equipment and risers.

Vegetation Management: The inspection, trimming, and removal of trees within the vicinity of electric facilities to ensure safe and reliable distribution service.

Terms Retired with 4/1/2016 EDPM Publication

1. TD2320P-01 retired the terms Spill (Category 1) and Spill (Category 2)

2. This EDPM Manual version 4/1/2016 has updated or retired these terms:

   Old Definition: Stain: Insulating fluid is on the surface of the equipment but does not have a sheen and appears dried.

   Retired Definition: Leak: Insulating fluid is not about to run off of the surface of the equipment but has a sheen.

   Retired Definition: Seep: Insulating fluid is not about to run off of the surface of the equipment but has a sheen.

   Retired Definition: Spill (Category 1): Insulating fluid has run off the surface of the equipment and is in contact with the soil or vegetation.

   Retired Definition: Spill (Category 2): Insulating fluid is about to or has run off the surface of the equipment but has not made contact with the soil or vegetation.

3. Refer to the Chapter titled “Assessments, Notifications, and Forms”, Section 13, **Table 2: PCB Spill/Leak Category Response Matrix (OH & Subsurface)** and **Table 3: PCB Spill/Leak Category Response Matrix (Padmount)**.

This page is reserved for future updates.

This page is reserved for future updates.

Record Retention

Overview

The chapter provides information about records retention requirements.

Target Audience

PS&R Personnel

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1 Record Retention Requirements

1. Records may be in paper and/or electronic form and must be retained as specified by the Record Retention Matrix.

   Note: Internal Guidance from the PG&E Law Department, etc., may over-ride program minimum record retention requirements; as such, records may need to be retained in PG&E or off-site storage facilities

2. Equipment testing records may be in paper and/or electronic form and must be retained as specified by the Record Retention Matrix.

3. In addition to these requirements, each completed “Electric Corrective (EC) Notification,” if associated with an inspection or patrol, must be retained for at least 1 year after all the necessary repairs or maintenance on the notification have been completed.

4. All records shall be retained in accordance with the applicable document retention policy. No record, whether hardcopy or in electronic form, may be destroyed without the program manager's written authorization. The following table summarizes these requirements.

2 GO 165 Record Retention Guidelines

RECORD TYPE	REQUIREMENT	MINIMUM RECORD RETENTION
OH Inspection Maps, Electric Maintenance Patrol/Inspection Daily Logs, and Paper or Electronic Notification Forms	2 Inspection cycles or 5 years, whichever is longer	10
UG Inspection Maps, Electric Maintenance Patrol/Inspection Daily Logs, and Paper or Electronic Notification Forms	2 Inspection cycles or 5 years, whichever is longer	6
OH Patrol Maps, Electric Maintenance Patrol/Inspection Daily Logs, and Paper or Electronic Notification Forms	2 Patrol cycles or 5 years, whichever is longer	5
UG Patrol Maps, Electric Maintenance Patrol/Inspection Daily Logs, and Paper or Electronic Notification Forms	2 Patrol cycles or 5 years, whichever is longer	5
OH IR Inspection Maps, Electric Maintenance Patrol/Inspection Daily Logs, and Paper or Electronic Notification Forms	2 Inspection cycles or 5 years, whichever is longer	10

GO 165 Record Retention Guidelines, *continued*

RECORD TYPE	REQUIREMENT	MINIMUM RECORD RETENTION
Manhole Inspections	2 Inspection cycles or 5 years, whichever is longer	6
Equipment Testing Records (Utility Std Equipment)	2 test cycles or 6 years, whichever is longer	6
Completed, Signed EC Notifications Associated With an Inspection or Patrol	2 Inspection cycles or 5 years, whichever is longer, **and** at least 1 year after all necessary repairs or maintenance on the Notification have been completed	6
Completed, Signed EC Notifications Not Associated With an Inspection or Patrol	6 years, **and** at least 1 year after all necessary repairs or maintenance on the Notification have been completed	6
Insulator-Cleaning Records	2 Inspection cycles or 5 years, whichever is longer	5
Streetlight Group Replacement Records	2 Inspection cycles or 5 years, whichever is longer	10

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EDPM Revisions

Overview

The chapter supports revision information and content.

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EDPM Additions

Overview

The chapter provides additional pages that are reserved for additions to the EDPM manual.

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