IM–TOC: Inspection Program and Maintenance Records

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IM–1: Distribution Inspection and Maintenance Program (DIMP) — Overview

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IM–1: Distribution Inspection and Maintenance Program (DIMP) — Overview

1.0 Purpose

This chapter describes SCE's Distribution Inspection and Maintenance Program.

The Distribution Inspection and Maintenance Program seeks to ensure public and worker safety by performing Inspections and Patrols (as described in IM–2) and performing maintenance (as described in IM-3) in accordance with SCE standards and in conformity with General Order (G.O.) 95, 128, and 165 requirements.

The purpose of these practices is to promote safe, reliable and cost-effective service consistent with SCE standards and in conformity with these General Orders. It is intended that these maintenance practices be viewed in a holistic manner taking into consideration competing influences such as operating protocols, capital work, regulatory and environmental approvals/restrictions and good utility practices. See IM–8 for environmental guidelines.

2.0 Policy Statements

2.1 Maintenance and Inspection (M&I) Manager Responsibilities

The manager of Maintenance and Inspection (M&I) shall approve revisions to the Distribution Inspection and Maintenance Program and any corresponding training programs.

2.2 Scheduling of Supplemental Inspections/Patrols

Distribution Construction and Maintenance and Grid Operations managers may schedule supplemental inspections or patrols at any time.

2.3 T&D Apparatus Engineering Responsibilities

T&D Apparatus Engineering is responsible for approving equipment, parts and materials, structures, maintenance frequency (if more frequent than G.O. 165) and/or repair procedures.

2.4 T&D Construction Methods Responsibilities

T&D Construction Methods is responsible for approving tools, methods, repair equipment and line use vehicles necessary to accomplish maintenance-related activities.

2.5 T&D Safety Responsibilities

T&D Safety is responsible for reviewing and approving crew maintenance practices relative to OSHA and SCE safety standards.

2.6 Temporary Reduction or Suspension of M&I Activities

Distribution inspection and maintenance program activities may be temporarily curtailed or deferred due to emergency conditions so that Design Construction and Maintenance resources may be reallocated to restore the electric system.

2.7 Reporting of Emergency-Caused Deviation from G.O. 165 Requirements

Emergency conditions warranting a substantial deviation from G.O. 165 requirements shall be communicated to the California Public Utilities Commission's Safety Enforcement Division by the manager of Maintenance and Inspection.

2.8 Frequency of Inspections and Patrols

The frequency of scheduled inspections and patrols shall meet the requirements of G.O. 165.

3.0 References

3.1 California Public Utilities Commission (CPUC) General Order (G.O.) 95, Rules for Overhead Electric Line Construction

3.2 CPUC G.O. 128, Rules for Construction of Underground Electric Supply and Communication Systems

3.3 CPUC G.O. 165, Inspection Cycles for Electric Distribution Facilities

3.4 Distribution Overhead Construction Standards (DOH)

3.5 Distribution Underground Construction Standards (DUG)

3.6 IM–2: Inspections and Patrols

3.7 IM–3: Distribution Maintenance Program

3.8 Distribution Inspection and Maintenance Program (DIMP) Manual

3.9 Accident Prevention Manual (APM)

3.10 Environmental Policies and Procedures (EN) and ESD Waste Management Manual

4.0 Operations

4.1 Maintenance and Inspection Manager Oversight Responsibilities

The Maintenance and Inspection manager is responsible for the oversight of personnel making strategic and tactical decisions for the Distribution Inspection and Maintenance Program (DIMP) and the Wood Pole Intrusive Testing Program.

4.2 Design Construction & Maintenance Managers Oversight Responsibilities

The Design Construction & Maintenance managers are responsible for the oversight of personnel scheduling, supervising and performing DIMP Inspections, Patrols and Maintenance activities.

4.3 Street and Outdoor Lighting Organization Manager Oversight Responsibilities

The Street and Outdoor Lighting Organization manager is responsible for the oversight of personnel supervising and performing streetlight patrols and related maintenance activities.

4.4 Performance Management & Analysis Manager Responsibilities

The Performance Management & Analysis manager is responsible for the personnel reporting on DIMP-related work.

4.5 System Support & Administration Manager Responsibilities

The System Support & Administration manager is responsible for the personnel ensuring field tools (that is, recording devices) and the Work Management System are functioning properly.

4.6 Quality Control Managers Responsibilities

The Quality Control managers are responsible for the personnel assessing the Distribution Construction and Maintenance department's adherence to SCE standards, G.O. 95 and G.O. 128 requirements; and supporting improvements to the DIMP.

5.0 Maintenance

5.1 DIMP Management Group Responsibility

The DIMP management group is responsible for compiling the supporting documentation used to confirm SCE's compliance with G.O. 165 requirements.

5.2 Law Department Responsibility

SCE's Law Department is responsible for filing the prescribed G.O. 165 annual report with the California Public Utilities Commission by July 1 each year.

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IM–2: Inspections and PatrolsM

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IM–2: Inspections and Patrols

1.0 Purpose

This chapter describes the detail inspection and grid patrol portion of SCE's Distribution Inspection and Maintenance Program and serves as a point of reference for the Wood Pole Inspection Program and Streetlight Inspection Program in consideration of General Order (G.O.) 165 requirements.

2.0 Policy Statements

2.1 Distribution Construction and Maintenance Responsibility

The managers of Distribution Construction and Maintenance shall have responsibility for detail inspections and grid patrols associated with the Distribution Inspection and Maintenance Program requirements.

2.2 Maintenance and Inspection Authority

The manager of Maintenance and Inspection shall have authority over the Wood Pole Inspection Program.

2.3 Grid Operations Managers' Responsibility

The managers of Grid Operations shall have responsibility for street light patrols and inspections.

2.4 Performance of Inspections and Patrols

Inspections and patrols shall be performed by qualified personnel according to SCE policies, practices, and procedures.

2.5 Compliance with G.O. 165

Inspections and patrols subject to G.O. 165 requirements shall be conducted in a manner that ensures SCE's compliance.

2.6 Records Retention of Discrepancies

Discrepancies and their priority rating shall be recorded and retained in the Work Management System.

2.7 Records Retention of Pending and Completed Inspections

Records of pending and completed inspections and patrols shall be established in the Work Management System, retained according to SCE policy, and made available to duly authorized governmental agencies.

3.0 References

3.1 California Public Utilities Commission; G.O. 165, Inspection Cycles for Electric Distribution Facilities

3.2 Distribution Inspection and Maintenance Program (DIMP) Manual

3.3 IM–1: Distribution Inspection and Maintenance Program (DIMP) — Overview

3.4 IM–4: Wood Pole Inspection Program

3.5 Accident Prevention Manual (APM): SCE Specification No. M.S. 454 — Inspection and Treatment of Wood Poles In-Service

3.6 APM

3.7 Environmental Policies and Procedures (EN) Manual and ESD Waste Management Manual

4.0 Operations

4.1 Detail Inspections

"Detail Inspection" is defined as a close proximity evaluation of an SCE distribution asset.

A. Distribution assets subject to underground detail inspections include subsurface and pad mounted enclosures, switches, transformers, visible cables and associated components.

B. Distribution assets subject to overhead detail inspections include poles, transformers, capacitors, regulators, visible wires and/or cables, and associated line elements.

C. Inspector duties include identifying discrepancies; rating and recording conditions; performing minor corrective action; and documenting Priority 2 rated safety and reliability conditions created by third parties on or near SCE structures.

D. Conditions assigned a priority rating are recorded electronically in a field tool. Additional data recorded in the field tool includes: FLOC or equipment number, problem statement, date found, and unique employee identifier.

E. Electronically recorded data is uploaded to the Work Management System.

4.2 Wood Pole Intrusive Inspections

Wood pole intrusive inspections are conducted according to SCE Specification No. M.S. 454. The Wood Pole Inspection Program is further described in IM–4.

Inspection data and corrective action records are retained in the Work Management System.

4.3 Streetlight Inspections

Streetlight inspections are conducted as visual evaluations. Program requirements are described in SL-1, Subsection 5.3 of SCE's O&M manual.

Inspection data and corrective action records are retained in the Work Management System.

4.4 Other Inspections

SCE Troublemen, SCE Apparatus, Distribution Construction and Maintenance (DC&M) crews, and contract DC&M crews may identify discrepancies during the course of performing work assignments. (Refer to DIMP Manual, IN-1.)

A. Conditions assigned a priority rating are recorded electronically in a field tool. Additional data recorded in the field tool includes: FLOC or equipment number; problem statement; date found; and unique employee identifier.

B. Electronically recorded data is uploaded to the Work Management System.

4.5 Grid Patrol

"Grid Patrol" is defined as basic visual evaluation of SCE's distribution assets located within a specified boundary.

A. Distribution assets subject to grid patrols include above ground structures, overhead conductors and equipment; and entryways to subsurface enclosures and vaults.

B. Grid Patrols are typically conducted via land vehicle; however, patrols may be conducted by foot or via aircraft (helicopter or fixed wing) in remote areas.

C. Conditions assigned a priority rating are recorded electronically in a field tool. Additional data recorded in the field tool includes: FLOC or equipment number; problem statement; date found; and unique employee identifier.

D. Electronically recorded data is uploaded to the Work Management System.

4.6 Priority Rating

The condition of distribution assets is evaluated during inspections and patrols to determine and record the necessary corrective action in response to identified discrepancies.

A discrepancy is defined as: 1) a condition that conflicts with SCE standards, G.O. 95 or G.O. 128 requirements; or 2) a condition that, left unchecked (in the opinion of the inspector), presents a hazard to the public or utility worker, or, will negatively impact system reliability.

A. Discrepancies identified during detail inspections and grid patrols or while performing associated tasks are cross-referenced with a risk assessment matrix and as necessary, conditions are assigned a priority rating according to the DIMP Manual.

- Priority 1 — A condition that requires immediate or same day corrective action.
- Priority 2 — A condition that requires corrective action within 24 months.
- Priority 3 — A condition that requires reevaluation or repair before or during the next inspection cycle. Minor corrective action may be performed during the inspection.

B. Wood poles requiring replacement or reinforcement are assigned a Priority rating at the time of inspection according to the Wood Pole Inspection Program guides.

C. Discrepancies identified by personnel conducting streetlight inspections/patrols are evaluated according to the condition rating requirements specified in SL–1, Subsection 5.2.

5.0 Maintenance

Design Construction & Maintenance foremen, troublemen, inspectors and underground crews are responsible for the care and upkeep assigned field tools.

IM–3: Distribution Maintenance Program

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IM–3: Distribution Maintenance Program

1.0 Purpose

This chapter describes the maintenance portion of SCE's Distribution Inspection and Maintenance Program (DIMP).

2.0 Policy Statements

2.1 Maintenance Scheduling

Maintenance shall be scheduled for completion according to established policies and the DIMP guidelines.

2.2 Meeting Standards of Required Maintenance

Maintenance activities shall be completed by qualified personnel according to SCE standards and will meet or exceed General Order (G.O.) 95 or G.O. 128 construction or reconstruction requirements.

2.3 Conditions Causing Deviations from Scheduled Maintenance

Maintenance activities shall be completed as scheduled. Deviations can be expected due to factors such as third party refusals, storms, system grouping items for the most efficient assignment of work, and the scheduling of repair items with planned replacements. It is the responsibility of DCM Management to monitor these deviations and to ensure completion of pending maintenance.

2.4 Response to Absence of Standards or Requirements for Maintenance Activities

Absent an SCE standard or specific G.O. 95/128 requirement, maintenance activities shall be completed by applying sound judgment and accepted good practices for each given condition.

2.5 Records Retention of Pending and Completed Inspections

Records of pending and completed maintenance activities shall be established in the Work Management System; retained according to T&D and SCE policy; and made available to duly authorized governmental agencies.

3.0 References

3.1 California Public Utilities Commission (CPUC) G.O. 95, Rules for Overhead Electric Line Construction

3.2 CPUC G.O. 128, Rules for Construction of Underground Electric Supply and Communication Systems

3.3 Distribution Inspection and Maintenance Program (DIMP) Manual

3.4 IM–1: Distribution Inspection and Maintenance Program (DIMP) — Overview

3.5 Distribution Overhead Construction Standards (DOH)

3.6 Distribution Underground Construction Standards (DUG)

3.7 Accident Prevention Manual (APM)

3.8 Environmental Policies and Procedures Manual (EN) and ESD Waste Management Manual

3.9 Work Management System Procedure Manual

4.0 Operations

Maintenance is defined as the necessary corrective action applied to a distribution overhead or underground asset.

4.1 Repairs by Inspectors

Inspectors also identify and perform certain Maintenance tasks during the course of a Detail Inspection or Grid Patrol. Upon completion of these tasks, the inspectors:

A. Will accurately record the work completed in the field tool; and

B. Upload recorded data to the Work Management System.

4.2 Overhead and Underground Maintenance

A. Maintenance tasks that are not completed by an inspector are assigned work order numbers and scheduled for completion according to the need date specified in the Work Management System.

B. Work orders are assigned to Distribution Construction and Maintenance crews (SCE and contract) by the responsible scheduling group.

C. Due dates and completion dates are tracked in the Work Management System.

D. Upon completing scheduled Maintenance tasks, the field crews:

1. Complete the work order; and

2. Upload recorded data to the Work Management System; and

3. Complete related notifications.

5.0 Maintenance

5.1 Parties Responsible for Maintenance of Field Tools

Distribution Construction and Maintenance (DC&M) Foremen, Apparatus Foremen, Troublemen, Inspectors and Underground crews are responsible for the care and upkeep of their assigned field tools.

5.2 Responsibilities of Program Management & Analysis Organization

The Program Management & Analysis organization is responsible for resolving Work Management System data base errors (related to field crew uploads); administering and analyzing WMS information, tracking pending and completed work orders.

IM–4: Wood Pole Inspection Program

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ATTACHMENTS **PAGE**

IM–4: Wood Pole Inspection Program

1.0 Purpose

This chapter summarizes the Wood Pole Inspection Program for in-service SCE and non-SCE wood poles, and describes the tagging method used to identify wood poles subject to replacement or reinforcement.

2.0 Policy Statements

2.1 Requirements of Wood Poles within Service Territory

All wood poles ***within*** SCE's service territory that support SCE electric lines are subject to the requirements delineated in this chapter (IM-4).

2.2 Requirements of Wood Poles outside Service Territory

SCE wood poles ***outside*** SCE's service territory that support SCE transmission lines or SCE telecommunciation lines are subject to the requirements delineated in this chapter (IM-4).

2.3 Status of Non-SCE Wood Poles outside Service Territory

Non-SCE wood poles ***outside*** SCE's service territory that support SCE electric lines or SCE telecommunication lines are ***not*** subject to the requirements delineated in this chapter (IM-4).

2.4 Wood Pole Inspection Requirements

Wood pole inspections shall be conducted in accordance with SCE Specification No. M.S. 454.

2.5 Specification M.S. 457

SCE Specification M.S. No. 457 shall be used in conjunction with SCE Specification M.S. No. 454.

2.6 Marking Wood Pole Level of Deterioration

Wood poles subject to replacement or restoration shall be plainly marked at the time of testing with tags indicating the level of deterioration to serve as a warning to utility workers.

3.0 References

3.1 SCE Specification No. M.S. 454 — Inspection and Treatment of Wood Poles In-Service

3.2 SCE Specification No. M.S. 457 — Steel Stubs for Reinforcing Wood Poles

3.3 Overhead Construction Standard PO 147.1, Reinforcement and Replacement of Deteriorated Poles

3.4 SCE Wood Products Training Manual

3.5 SCE Pole Inspection Guidelines Handout

3.6 Accident Prevention Manual (APM)

3.7 Distribution Inspection and Maintenance Program (DIMP) Manual

4.0 Operations

INSPECTION TAGS

4.1 Wood Pole Tagging — No Deterioration

Wood poles, which have been intrusively tested and identified as being free of internal and external deterioration, are marked with an inspection tag and a treatment tag, which collectively indicate the year of inspection and type of fumigant applied to the pole.

4.2 Wood Pole Tagging — Deteroriation

Wood poles, which have been intrusively inspected and identified as “deteriorated,” are marked with an inspecion tag and one of four supplemental tags.

A. The tag illustrated in Figure 4–1 is included for reference purposes only and previously signified a pole was subject to reinforcement with fiberglass material.

B. The tag illustrated in Figure 4–2 signifies a pole is subject to reinforcement with a steel stub.

C. The tags illustrated in Figure 4–5 through Figure 4–6 signify a pole is subject to replacement and include the assigned priority rating.

D. The tags illustrated in Figure 4–7 through Figure 4–8 are included for reference purposes only and previously signified a pole that was subject to replacement. The tags also include the assigned priority rating.

E. The tag illustrated in Figure 4–3 is included for reference purposes only and previously signified a pole was subject to replacement.

F. The tag illustrated in Figure 4–4 is included for reference purposes only, and previously signified a pole that was subject to further scrutiny (above the ground line) due to the visual observation by an SCE or contract inspector.

5.0 Maintenance

5.1 Inspection Requirements

Programmed intrusive inspections of wood poles are performed by qualified personnel according to SCE policies, practices, and procedures.

5.2 Maintenance

Programmed activities for replacing and reinforcing wood poles are based on the assignment of a priority rating:

Priority 1 — Replace within 72 hours. Temporary repairs or restoration methods may allow the condition to be re-rated.

Priority 2 — Replace or repair within 3 years for pre-2011. Post 2011, will replace between 1 and 3 years.

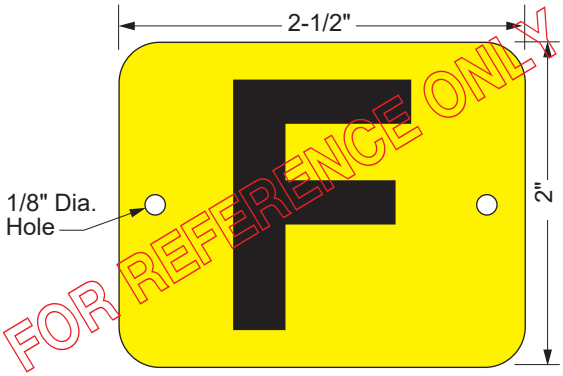
Priority 3 — Pass.

5.3 Records

Testing, replacement, and reinforcement information is recorded and retained in accordance with departmental requirements and SCE's ACT Policy.

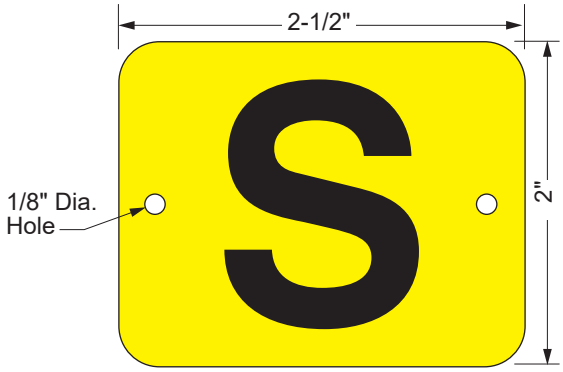
Attachment 4–1: Deteriorated Pole Tags

Figure 4–1: SAP 10135031



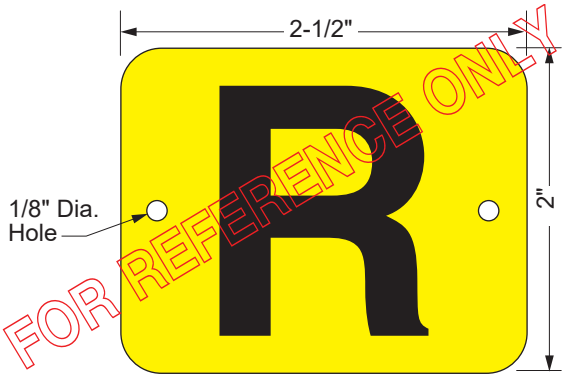
Note(s):
1. Fiberglass Wrap — Yellow with “F” Letter – For Reference Only

Figure 4–2: SAP 10135032



Note(s):
1. Steel Stub — Yellow with “S” Letter

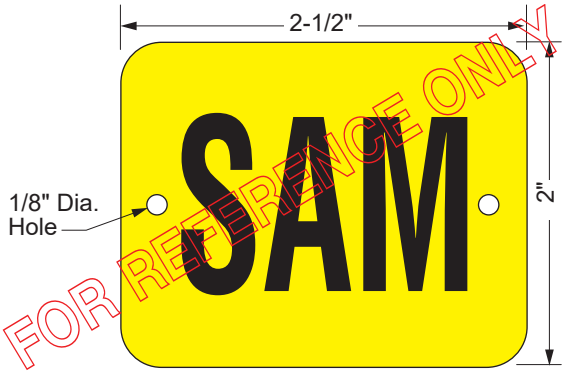
Figure 4–3: SAP 10135033



Note(s):
1. Replace — Yellow with “R” Letter – For Reference Only

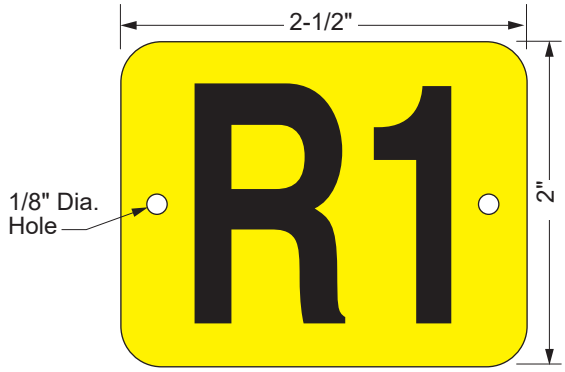
Attachment 4–1: Deteriorated Pole Tags *(Continued)*

Figure 4–4: SAP 10135039



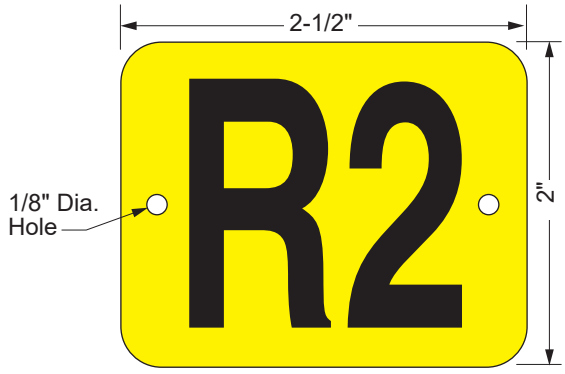
Note(s):
1. Structured Assessment Methodology — Yellow with Black “SAM” – For Reference Only

Figure 4–5: SAP 10134958



Note(s):
1. Replace — Priority 1 — Yellow with Black “R1”

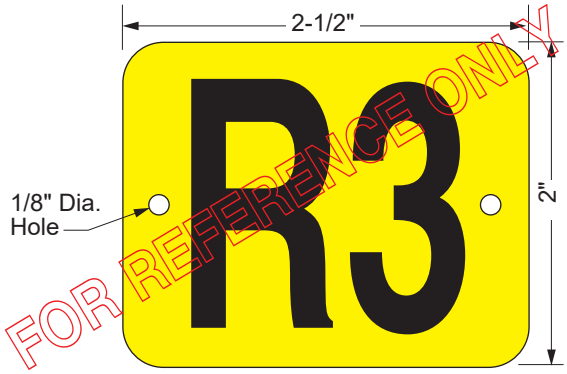
Figure 4–6: SAP 10134975



Note(s):
1. Replace — Priority 2 — Yellow with Black “R2”

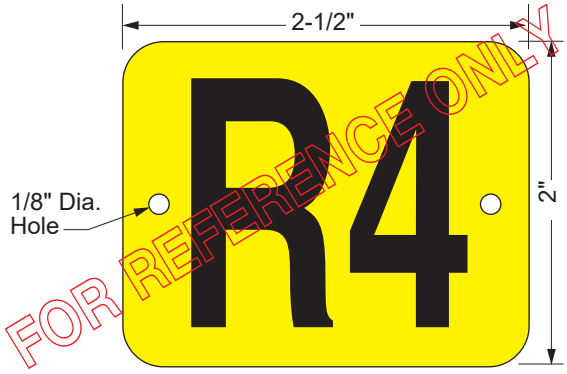
Attachment 4–1: Deteriorated Pole Tags *(Continued)*

Figure 4–7: SAP 10134985



Note(s):
1. Replace — Priority 3 — Yellow with Black "R3" – For Reference Only

Figure 4–8: SAP 10134995

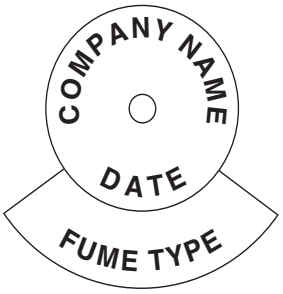


Note(s):
1. Replace — Priority 4 — Yellow with Black "R4" – For Reference Only

Attachment 4–2: Inspection and Treatment Tags

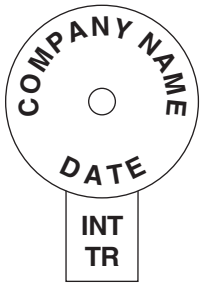
External Groundline Treatment

Contractor shall install on poles that have been bored, sounded, and externally treated in accordance with SCE Specifications.



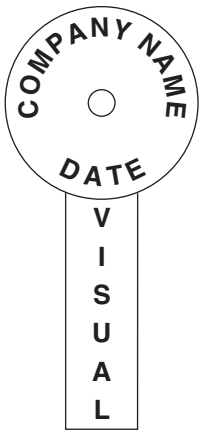
Fumigant Treatment

Contractor shall install on poles that have been internally treated with fumigants in accordance with SCE Specifications. Refer to chapter PLM-3 of the Pole Loading Manual (PLM) for different types of fumigants used by SCE.



External Groundline Treatment plus Internally Treated with a Preservative Solution.

Contractor shall install on poles that have been bored, sounded and externally treat as well as internally treated with a preservative solution in accordance with SCE Specifications.



Visual Inspection — No Test or Treatment Applied

Contractor shall install on poles visibly inspected (sites visited and reported) no test or treatment applied in accordance with SCE Specifications.

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IM–5: Conditions That Affect Entry into Vaults or Manholes

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IM–5: Conditions That Affect Entry into Vaults or Manholes

1.0 Purpose

The purpose of this procedure is to document the process that informs employees of when a potentially hazardous condition has been discovered inside a distribution confined space, vault, or manhole, and the structure will be left unattended until corrections are completed.

Described are the conditions that will restrict employee entry into those structures while the equipment or components are energized; also, other conditions that will not restrict structure entry, but will require employee notification at the entrance.

BACKGROUND

Equipment and/or components identified as either maintenance Priority 1 or maintenance Priority 2 were being unnecessarily interpreted as restricting entry into vaults or manholes while the equipment was energized. Depending on the type of equipment or component condition, proper safety techniques or the reduction of load could have been applied in lieu of restricting entry into the structure.

2.0 Policy Statements

2.1 Informing Employees

Employees must be informed of abnormal conditions and those safeguards to be used around hazardous areas and equipment.

2.2 Conditions Noted But Not Yet Corrected

Procedures are applicable for the conditions listed in Section 5.0 for structures left unattended and when corrections may take up to 90 days.

2.3 “CAUTION” Tag

For all Priority 1 and Priority 2 conditions found in a structure, a yellow CAUTION tag is required inside the entrance.

2.4 Structure Entry Restriction

The responsible supervisor has the authority to restrict entry into a vault or manhole when a Priority 1 or Priority 2 condition exists and that is not identified in this procedure. Upon further evaluation of the condition restricting entry, the structure restriction will be reinforced or eliminated when deemed appropriate.

3.0 References

3.1 Accident Prevention Manual (APM)

3.2 IM–1: Distribution Inspection and Maintenance Program (DIMP) — Overview

3.3 IM–3: Distribution Maintenance Program

3.4 CP–1: Corrosion Protection of Equipment

3.5 SW–5: Underground SF6 Gas Switches

3.6 TS–2: Rocker/Rotary Arm-Type Switch Oil Sampling and Pressure Testing

3.7 TS–3: BURD-Type Switch Oil Sampling and Pressure Testing

3.8 Distribution Inspection and Maintenance Program (DIMP) Manual

4.0 Operations

Restricting entry into a structure requires (1) placement of two postings in the affected structure, (2) notification of the Switching Center, and (3) revision of the circuit map.

4.1 Yellow Tag Alert

A “Yellow Tag” (SAP 10132031) will be posted in the entrance of an unattended vault or manhole for a Priority 1 or Priority 2 condition. The tag will list the problem, date found, and the Priority code. The yellow tag will alert if the condition creates a hazard for entry. The yellow tag will remain in place until the condition is corrected.

4.2 “CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED” Sign

A “CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED” sign will be posted in the entrance to a vault or manhole, in addition to the yellow tag, for all conditions listed in this procedure and when structure entry is restricted for other reasons. The “CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED” sign will notify all workers that structure entry is prohibited until the equipment has been de-energized and the yellow notification tag will identify the problem. Both sign and tag will remain in place until the condition is corrected or mitigated to a safe level.

4.3 Notifying Switching Center

The supervisor in charge will notify the Switching Center of the condition and that a temporary “CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED” sign was posted, and will prepare a circuit map revision noting the structure is “Closed When Energized.”

5.0 Maintenance

5.1 Unsafe Conditions Prohibiting Entry into Underground Vaults and Manholes

The following is the list of "CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED" conditions that prohibit personnel entry into underground vaults and manholes until the hazardous condition is corrected or mitigated to a safe level by either de-energizing or isolation.

A. Corrosion

See CP–1 for details.

1. Severe Corrosion (Priority 1)

- Severe corrosion or pitting has eroded 100 percent of the wall thickness.
- Equipment cable terminations hold down bolts have corroded and can no longer support the cable.
- Corrosion-caused equipment oil leak in a wet structure.

2. Very Heavy Corrosion (Priority 2)

- There is very heavy corrosion over most of the equipment's surface, or pitting exceeds 50 percent of the wall thickness.
- Equipment cable termination hold down bolts have corroded to a point where the threads have been obliterated.
- Corrosion-caused equipment oil leak in a dry structure.

B. Switches

See SW–3, SW–5, and SW–6.

- Dielectric oil test (field or lab) on oil switch is less than 15 kV.
- SF_6 gas switch with less than 5 psi pressure or in **red zone** in wet structures.
- Floating SF_6 gas switch where cables are unduly stressed and the switch did not return to the original orientation after pumping water from the structure.
- Pothead skirt in the PMH switch in contact with the protective barrier.
- Under PMH switches without a moisture barrier or integral floor.

C. Cable Inspection After Adjacent Cable Failure

A close examination of de-energized cable within an underground structure that has been subject to cable failure is necessary before re-energizing. If it is determined that any of the following criteria exists on cable located in such a structure, the use of a "CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED" sign shall be posted and the cable replaced at a later date.

1. Visible signs of burning of materials or external heat damage to cable or any of the visible layers.
   - Jacket — Melting, visible concentric neutrals, abrasions
   - Concentric Neutrals (Round or Flat Strap) — Not in contact with semi-con layer, missing or broken wires
   - Cable Insulation Semi-con — Melting, scrapes, burn marks, abrasions

2. Visible signs of incorrect positioning of cable causing contact and/or damage
   - Cable movement
   - Wear or rubbing points
   - Sharp edges that may rub against cable
   - Ground connections to cable and structure ground

D. 200 A or 600 A Components, and Mechanical or Lead Splices

- Pre-molded elbow or splice has swollen twice its normal size.
  - — Cable entrance of splice appears to be distorted in such a manner that the cable entrance is compromised, allowing water and contaminants to enter the splice.
  - — Cable entrance to underground components and/or bushing interfaces appear to be distorted in such a manner that the cable entrance seal or the bushing interface is compromised allowing water and contaminants to enter the underground component.
- 200 A load-break or 200 A and 600 A dead-break component is not properly seated/secured.
  - — For 200 A load-break bushings, visually inspect the external elbow to bushing interface for either a gray, yellow, blue, or red seating indicator. A visible color indicates the elbow is not fully seated. Note that for older bushings, there may not be a color indicator or it may not be visible. Dirt may also prevent a color indicator from being visible.
- Novoid and/or oil leaking from fault caused rupture in a lead splice.
- Lead splice in wet structure and major leakage.
- Temperature of components or splices is 20°F or greater than the temperature of its associated cable.

E. Transformers

- Tank wall temperature greater than 265°F
- No oil in sight glass and signs of leakage

F. Underground Structure

- Structure roof or walls in immediate danger of collapse, showing evidence of structural compromise, load cracks, or flexing concrete
- Casting frame broken, creating dangerous traffic or pedestrian condition
- Cable termination or equipment failure due to lack of support

5.2 Required Response to Conditions Listed in Subsection 5.1

A. Employees will inform their immediate supervisor.

B. Employees will mitigate the hazard to the extent possible, which may include installing remote switching or other isolation methods.

C. The supervisor in charge will notify the Switching Center of the condition and that a temporary “CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED” sign was posted, and will prepare a circuit map revision noting the structure is “Closed When Energized.”

5.3 Posting of “CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED” Sign

A “CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED” (SCE 14-174-150) sign will be posted in a conspicuous location inside the structure (preferably top of ladder). This sign is used to alert unsuspecting personnel that a high Priority condition exists within the structure and entry is restricted.

5.4 Attaching the Yellow Tag

Attach a Yellow Tag (SAP 10132031) notifying personnel of the Priority 1 and/or Priority 2 condition; with the problem found date, the problem and the Priority code in a conspicuous location inside the structure (preferably top of ladder). The yellow tag will alert personnel of the condition within the structure but entry is not restricted unless accompanied with the “CAUTION DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED” sign.

5.5 Duration of Posting of Sign and Tag

Sign and tag will remain in place until the hazardous condition is corrected, or reduced to a nonhazardous condition.

5.6 Follow-Up to Corrected Condition

After correction for structures that had restricted access, the tag and sign will be removed. The supervisor in charge will inform the switching station of the condition correction and prepare a circuit map revision.

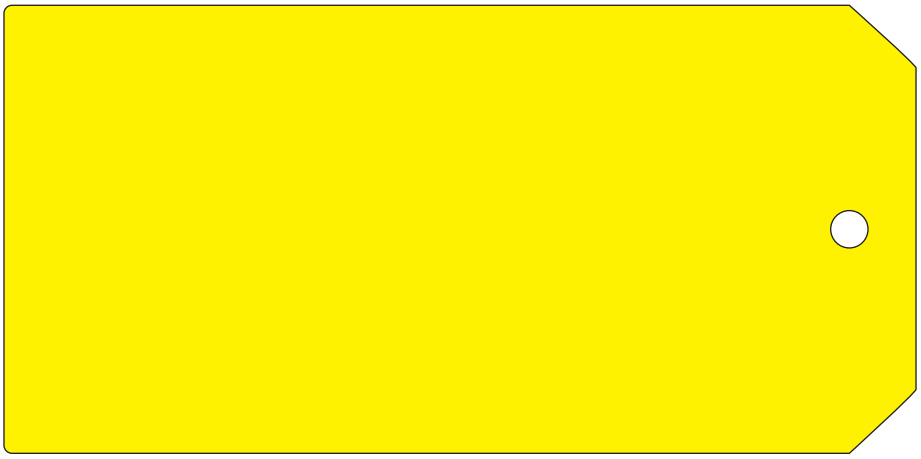
Attachment 5–1: Underground Structure "CAUTION" Sign (SCE 14-174–150)

CAUTION

DO NOT ENTER WHILE EQUIPMENT IS ENERGIZED

SCE 14-174-150 REV 6/01

Attachment 5–2: Underground Structure Yellow Tag (SAP 10132031)



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IM–6: Reporting Third Party-Caused G.O. 95 and G.O. 128 Violations

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IM–6: Reporting Third Party-Caused G.O. 95 and G.O. 128 Violations

1.0 Purpose

This procedure describes the identification, reporting, and notification process when General Order (G.O.) 95 and G.O. 128 violations are created on or near Distribution facilities by non-utility third parties that are not subject to CPUC jurisdiction.

This procedure was established to comply with G.O. 95, Rule 12.6; and G.O. 128, Rule 12.5. Rules 12.6 and 12.5 require utilities to pursue appropriate corrective action and/or a notification process to correct non-utility third party-caused violations.

2.0 Policy Statements

2.1 Addressing Violations of G.O. 95 and G.O. 128

Transmission and Distribution (T&D) will address G.O. 95 and G.O. 128 violations impacting its overhead and underground facilities in compliance with G.O. 95, Rule 12.6; and G.O. 128, Rule 12.5.

2.2 Addressing Violations Created by Non-Utility Third Parties

Distribution Construction and Maintenance (DC&M) personnel performing patrols and inspections will report certain G.O. 95 and G.O. 128 violations involving T&D's overhead and underground facilities created by non-utility third parties.

2.3 Rating of Non-Utility Third Party Violations

Upon identification, G.O. 95 and G.O. 128 violations created by non-utility third parties will be priority-rated Level 2 discrepancy.

A. All Priority 1 conditions will be reported to Grid Operations, and managed according to current T&D policies and procedures.

B. All other conditions will be recorded in the field tool (laptop).

2.4 Suspension of Requirements

These program requirements are suspended during storm or emergency events.

3.0 References

3.1 IM–2: Inspections and Patrols

3.2 Distribution Inspection and Maintenance Procedure (DIMP) Manual

3.3 G.O. 95, Rule 12.5; and G.O. 128, Rule 12.6

3.4 SCE ACT Policy, T&D No. 1701

3.5 Work Management System, Repair Procedures 2.0

4.0 Operations

Reporting Non-Utility Third Party-Caused G.O. 95/128 Violations Report (Field Tool)

STEP 1. DC&M personnel performing patrols and inspections will identify certain G.O. 95 and G.O. 128 violations with safety or reliability risk.

- ☐ Priority Rating 2
- ☐ Non-utility third party/customer name
- ☐ Property address or major cross streets
- ☐ Description of conditions (2–4 pictures)

STEP 2. Download according to existing protocols.

5.0 Maintenance

N/A

IM–7: Aerial Obstruction Evaluations

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IM–7: Aerial Obstruction Evaluations

1.0 Purpose

This procedure describes the process for requesting and performing aerial obstruction evaluations.

2.0 Policy Statements

2.1 Evaluating New and Existing Facilities

SCE will apply basic principles and practices when evaluating newly constructed facilities and responding to internal or external requests to evaluate existing facilities.

2.2 Evaluation Following a Wire Strike

SCE will apply basic principles and practices when facilities are evaluated following a Wire Strike.

2.3 Ensuring Safety and Service

Transmission & Distribution (T&D) will design, construct, and maintain facilities to ensure public and worker safety and to provide reliable service.

2.4 Ensuring Compliance

T&D will strive to ensure compliance with state and federal statutes related to aerial obstruction marking.

2.5 Timely Evaluations

T&D will perform timely evaluations of facilities to determine the appropriate course of action in response to internal or external requests.

3.0 References

3.1 Code of Federal Regulations, Title 14: Aeronautics and Space, Chapter 1: Federal Aviation Administration, Department of Transportation, Subchapter E: Airspace, Part 77: Objects Affecting Navigable Airspace

3.2 U.S. Department of Transportation, Federal Aviation Administration Advisory Circular AC 70/7460-1K: Obstruction Marking and Lighting

3.3 Applicable portions of Transmission Design and Rights of Way Manual (TDR)

3.4 Applicable portions of Transmission and Distribution Overhead Construction Standards (TOH and DOH)

3.5 Applicable portions of Distribution Design Standards (DDS)

3.6 Southern California Edison A.C.T. (Assess, Classify, and Take action) Information Governance Policy

3.7 Resource Planning & Performance Manager (RPPM) — Maintenance and Inspection (M&I) Compliance Organization: Guide to Performing Aerial Facility Evaluations

4.0 Operations

4.1 Evaluating New Facilities

A. Design Review

1. The responsible Engineer, Estimator, or Planner will ensure that relevant documentation and information encompassing the planned construction or alteration of facilities that meet the following criteria are reviewed by the responsible Distribution Management.

   - ☐ A planner from Central Design will be consulted to provide technical support for the development of work orders and procurement of materials.
   - ☐ The responsible Distribution planning personnel will acquire marking materials in accordance with the SCE procurement and accounting procedures through the work order creation process.
   - ☐ Construction Methods will assist with the development of marking materials and installation methods (as needed).
   - ☐ Marking will be scheduled and completed timely by the responsible department to ensure expenditures are recorded.

2. Facilities located on or near a public use airport or heliport will be designed in accordance with the appropriate design standards contained in the Distribution Design Standard (DDS) Manual.

B. Federal Aviation Administration (FAA) Filing

Any above ground construction or alteration of existing facilities within 20,000 feet of an airport, or 5,000 feet of a heliport not covered in the DDS Table 10–15: Pole Height Construction near Airports, should be referred to MIPO@sce.com for an evaluation of its effect on the air space and determination of necessary Federal Aviation Administration filing, except when:

- No lateral or height change to the structure or lines is made.
- In a congested urban area, the proposed construction/alteration is shielded by a structure or topographic feature of equal or greater height (for example, high rises and hills) such that the proposed construction/alteration would exist within the shield.

If the land around the airport is flat, MIPO@sce.com must be contacted only if the pole height exceeds the height shown in the DDS Table 10–15: Pole Height Construction near Airports. (If the construction location is in a hilly terrain, then contact T&D AF&M Compliance regardless of pole height.)

See DOH SL 601 FAA Lights on Distribution Poles. Also, refer to AF&M-06, Aerial Filing and Maintenance Operations, or email MIPO@sce.com for additional questions.

4.2 Evaluating Existing Facilities

A. Internal and External Requests

1. Internal and external requests for evaluating facilities will be submitted to MIPO@sce.com. The Aerial Obstruction Evaluation Request Form (see Attachment 7–1) is submitted to MIPO@sce.com and will be evaluated by the Project Lead.

2. The AF&M Program will assemble and lead the Field Evaluation Team.

   Evaluation Team members will include a representative from AF&M Compliance Program, Distribution Field Construction, and Air Operations.

3. Following the evaluation, the AF&M Program collect completed forms, create a final report, notify the responsible engineer, estimator, or planner and the responsible manager(s) by e-mail, and schedule a follow-up meeting.

   a. If the Evaluation Team recommends a facility be marked and the responsible manager(s) agree:

      1) The AF&M Program will provide a recommendation to the responsible planner to develop work orders and initiate the procurement of materials.

      2) Construction Methods will assist with the development of marking materials installation methods (as needed).

      3) Marking will be scheduled and completed timely by Air Operations to ensure expenditures are recorded.

      4) The AF&M Program will notify the FAA after the marking is completed.

   b. If the Evaluation Team recommends a facility be marked and the responsible Manager(s) disagree, the AF&M Program and responsible director will be notified.

      1) If, after further consideration it is decided the subject facility should be marked, AF&M-06, AF&M Operations will be applied.

4. Once a final recommendation is affirmed, the AF&M Program will transmit a written response to the requester.

4.3 Wire Strike Evaluations

SCE CLAIMS DEPARTMENT

A. Following a Wire Strike event, the Claims Department will be notified as soon as practicable.

B. If an evaluation is needed, MIPO@sce.com will be contacted by Claims; Distribution Field Construction will be notified by the DOC of a wire down evaluation.

C. The AF&M Program will assemble and lead the Field Evaluation Team.

Evaluation Team members will include a representative from AF&M Program, Distribution Field Construction, and Air Operations.

D. Following the evaluation, the AF&M Program will collect completed forms, create a final report, and submit report to the Claims Department Manager.

E. Following the receipt of field evaluation forms, the Claims Department Manager will consult with the responsible Distribution Management to determine whether marking is needed.

1. If it is determined the facility will be marked:

   a. The AF&M Program will provide a recommendation to the responsible Planner to develop work orders and initiate the procurement of materials, if required.

   b. Construction Methods will assist with the development of marking materials and installation methods (as needed).

   c. Marking will be scheduled and completed timely by Operations to ensure expenditures are recorded.

   d. The AF&M Program will notify the FAA via Form 7460-1 after the marking is completed.

2. If it is determined the facility will not be marked, MIPO@sce.com and responsible Director will be notified.

   a. If after further consideration it is decided the subject facility should be marked, the procedures of AF&M-06, Aviation Filling & Maintenance Operations will be applied.

   b. If the decision not to mark is confirmed, no further action is required.

4.4 AF&M Compliance

The AF&M Compliance Program will retain copies of requests, evaluations, and related documents, unless otherwise instructed by the Claims Department in accordance with Southern California Edison's A.C.T. Policy.

4.5 3rd Party Light Monitoring Vendor Troubleshooting

A. 3rd Party Light Monitoring Vendor

The alarms are monitored by a 3rd Party light monitoring vendor for SCE aerial lighting. If new construction, initial installation or replacement of lighting is required, SCE purchases aerial lights from 3rd party vendor. AF&M Program will adhere to SCE Supply Chain Management for all related procurement process for purchasing and ordering.

B. 3rd Party Light Monitoring Vendor Alarm Notifications

The 3rd Party light monitoring vendor's NOC initiates a notification process for troubleshooting when there's a non-light or light failure issue.

Email notifications are sent to the DOC and MIPO@sce.com for awareness and follow-up with impacted personnel.

The 3rd Party light monitoring vendor's notification to SCE for dry alarm contacts as follows:

- Light Failure
- Power Failure
- Communications Failure
- Mode Change
- Battery Voltage Levels
- Built-in Door Alarm (Open/Closed)
- 3rd Party wire strikes
- 3rd Party structure or Asset strikes

If the alarm is a light failure, the 3rd Party light monitoring vendor will send an email to FAA that an aircraft warning light is malfunctioning and/or not operating at a specific location. The NOTAM will be issued by the FAA.

C. Troubleshooting and Reporting

Once the DOC has been notified, the distribution repair or replacement of aerial lighting and/or marking begins. Area Troubleman will call the 3rd Party light monitoring vendor's NOC's to troubleshoot and resolve. The DOC will issue a TEMA order and dispatch to an Area Troubleman.

The Area Troubleman will troubleshoot the alarm, determine extent of repairs, and report the status to DOC.

- If unit needs to be replaced, Area Troubleman will take unit temporarily out-of-service to troubleshoot and fix issue.
- If the repair requires an SCE/Contract crew to complete, Area Troubleman will issue an E1P1 notification.
- 3rd Party Vendor verifies light is functioning correctly through the remote wireless monitoring system.

The 3rd Party light monitoring vendor will send a completion notification to FAA and SCE once the issue has been resolved. The Area Troubleman will notify DOC of status completion. The DOC will update notes and close TEMA order.

- The FAA NOTAM is active for 15 days.
- Area Troubleman has 72 hours to resolve issue (E1/P1 process). If district determines work cannot be completed within 72 hours, the PRS Analyst will close the E1P1 and create an E1P2 which allows for an additional 60 days to make final repairs.
- The 3rd Party light monitoring vendor will automatically submit an extension for the completion date of an open NOTAM.

5.0 Maintenance

Maintenance of obstruction marking equipment shall be performed in accordance with established Transmission and Distribution program parameters.

Attachment 7–1: Form 1: Aerial Marking Evaluation Request Form

Aerial Obstruction Evaluation Request Form

Please provide as much information as possible. Submit this form to MIPO@sce.com

Requester's name _____

SCE Contact person _____

Address of requester _____

Phone number of requester _____

Comments and reason for request _____

_____

_____

_____

If known

Address of the area to be evaluated _____

_____

GPS Longitude and Latitude _____

Latitude – _____

Longitude – _____

Familiar area that is near the equipment in question _____

_____

Line or Circuit name _____

Nearest switch or structure number _____

Voltage _____

Region or Division _____

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IM–8: Environmental Guidelines

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IM–8: Environmental Guidelines

1.0 Purpose

Environmental Services Department (ESD) is providing these guidelines to support equipment inspection activities that occur in open spaces areas and/or on public lands. Activities conducted in natural areas, areas with historic or cultural resources, or areas in or adjacent to wetlands or waters have the highest potential for impacts. It is important to avoid impacts to the greatest extent possible on private or public lands, but we must be particularly sensitive when working on public lands such as U.S. Forest Service, National or State Parks, and Bureau of Land Management properties.Sensitive species and their habitats, waterways and associated upland areas, and archaeological resources are of special concern.

These general guidelines for inspections must be followed to reduce impacts to environmental resources and to ensure public land management agencies are notified as appropriate. If these guidelines cannot be followed to complete inspections in a safe manner or if there is a change in inspection scope, engage the ESD (environmentalrequirements@sce.com or (833) 723-2362) for further guidance.

2.0 Policy Statements

2.1 Inspections within Public Lands

For inspections occurring within public lands, contact Government Lands for applicable access requirements (rpgovernmentlands@sce.com).

2.2 Inspections in Yosemite Toad Habitat

A full-time qualified Yosemite toad biologist is required for all patrols and inspections in Yosemite toad habitat. Contact ESD at (833)723-2362, prior to the work start for additional details.

3.0 References

3.1 Transmission Design and Right of Way Manual (TDR)

3.2 Distribution Inspection and Maintenance Program (DIMP)

3.3 Distribution Overhead Construction Standards (DOH)

3.4 Transmission Overhead Construction Standards (TOH)

3.5 Distribution Design Standards (DDS)

3.6 Distribution Operations and Maintenance Policies and Procedures (DOM)

3.7 Transmission Operations and Maintenance Policies and Procedures (TOM)

3.8 Environment Policies and Procedure (EN) Manual and ESD Waste Management Manual

3.9 National Pollutant Discharge Elimination System (NPDES) Manual

4.0 Operations

4.1 Overland Travel

Stay on designated SCE access roads and minimize off-road travel to extent possible.

4.2 Drainages & Waterways

- ☐ Avoid creating ruts, tire tracks, or erosion within waterways and drainages.
- ☐ Avoid leaving debris or vegetation in any drainages, streams, and waterways.

4.3 Minimize Disturbance to Vegetation

- ☐ Vehicles and equipment must stay on existing roads and previously disturbed areas.
- ☐ Inspection sites that are off road must be accessed on foot. Minimize vegetation brushing as much as possible, using hand tools when clearing footpaths to inspection sites.
- ☐ If applicable, spread cut vegetation to visually cover entry point of footpaths upon crew egress.
- ☐ Enter and exit using the same trail.

4.4 Environmentally Sensitive Areas (ESAs)

ESAs may be marked in the field typically in MPO Capital Project Footprint areas.

NOTE If you encounter signs marked as ESAs at or within the inspection site, do not enter the site. Contact Environmental for further guidance.

4.5 Avoid Impacts to Wildlife

- ☐ Do not touch any wildlife, avoid driving or walking over any animal burrows, and dispose of all trash within appropriate containers.
- ☐ Remove trash from work sites at the end of the day.
- ☐ If working in desert tortoise areas, Desert Tortoise Training is required.

5.0 Maintenance

N/A