

## IN-1: Overhead Detail Inspections

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## IN-1: Overhead Detail Inspections

### 1.0 Purpose

The purpose of the overhead detail inspection (ODI) is to visually evaluate SCE's overhead electrical distribution facilities with the intent to identify and document obvious discrepancies and validate accuracy of asset information and facility inventory mapping references for appropriate corrective action. Inspectors also identify and perform certain maintenance tasks during the course of a detailed inspection. Overhead detail inspections also accomplish the annual patrol of the grid.

### 2.0 Methods and Procedures

The inspector performs a close in-depth visual inspection of all the overhead electrical distribution facilities within the assigned inspection area. The frequency of ODI is directed elsewhere in this chapter, and in the Distribution Operations and Maintenance Policies and Procedures (DOM) manual.

### 3.0 Duties of the Inspector

The inspector performs the following tasks for each facility detailed inspection:

#### 3.1 Identification of Discrepancies per the OH Detailed Inspection Guidelines

The ODI inspector performs an in-depth visual examination of each overhead distribution facility using the following Detailed Inspection Guidelines as a guideline. This list is a high level summary of the items and areas to inspect. Additional information showing typical conditions requiring corrective action (Priorities 1 and 2) is shown in the applicable overhead equipment and component Condition Guide attached.

The inspector also identifies and reports any G.O. 95/128 infractions created on or near Distribution facilities by non-utility third parties that are not subject to CPUC jurisdiction.

#### 3.2 Establishment of Priorities per the Priority Decision Flowchart

Once the inspector has identified a condition requiring action, a risk assessment is performed using the Priority Decision Flowchart. This process helps identify the appropriate priority of the condition. The highest priorities are for those items that pose a safety hazard to the public or employees or could present a reliability threat to the system.

#### 3.3 Establishment of Action Time Frames for Each Identified Priority 2 Condition per the Condition Guides, Condition Risk Assessment Matrix

Only Priority 1 and 2 conditions have action time frames for mitigation. Priority 1 requires same day or immediate action thus no action time frame decision is required from the inspector. As discussed in the General Section of this manual, Priority 2 conditions have zero (0) to 24-month time frame options depending on the severity of the situation (unless in a high fire area).

#### 3.4 Performance of Appropriate Minor Repairs at the "Public" Level

The ODI inspector makes minor repairs at the Public level while at the site for the detailed inspection, rather than having other SCE personnel return at a later time to make the repairs.

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The following is a list of repairs that the ODI inspector performs:

- ☐ Repair damaged ground molding.
- ☐ Install new and/or repair existing guy guard.
- ☐ Repair damaged visibility strips or install new strips in locations where necessary.
- ☐ Install or repair riser strap.
- ☐ Install pole number.
- ☐ Remove unauthorized attachments when safe to do so.

Overhead structures present unique public safety exposure and work conditions depending on the height of the necessary repairs from the ground level where public exposure exists.

### 3.5 Validation of Accuracy of Asset Information and Facility Inventory Mapping References

While at the facility site, the ODI inspector performs the following:

- ☐ Records corrections—found assets, missing assets, asset corrections.
- ☐ Mapping corrections

### 3.6 Document in the Field Tool

Refer to the Work Management System (WMS) procedures manual.

## 4.0 References

- 4.1 CPUC G.O. 95, Rules for Overhead Electric Line Construction
- 4.2 CPUC G.O. 165, Inspection Cycles for Electric Distribution Facilities
- 4.3 SCE Distribution Overhead Construction Standards (DOH)
- 4.4 SCE Distribution Operations and Maintenance Policies and Procedures (DOM)
- 4.5 SCE Accident Prevention Manual (APM)
- 4.6 SCE Environmental Policies and Procedures (EN)
- 4.7 Distribution Maintenance Program
- 4.8 Work Management System

## 5.0 Attachments

[Attachment 1–1: Overhead Detailed Inspection Guideline](#)

[Attachment 1–2: Frequency of Apparatus Inspections](#)

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## Attachment 1–1: Overhead Detailed Inspection Guideline

### 1. Condition of Equipment, Apparatus, and Hardware

- ☐ Broken, chipped, or severely contaminated insulators/Primary insulator or pin above 750 V (cracked/damaged/loose)
- ☐ Pole switch indicating need for repair
- ☐ Indication of equipment oil leak
- ☐ Bulged or discolored capacitor units
- ☐ Blown or dry fuses, blown surge arresters, broken fuseholders
- ☐ Streetlights broken or damaged
- ☐ Animals, birds, foreign material interfering with operation
- ☐ Evidence of tracking or burning
- ☐ Broken pins or squatters (primary or secondary)
- ☐ Broken, bent pole steps
- ☐ Damaged or missing ground wire molding or ground wire exposed
- ☐ Condition of transformer's Internal Fault Detector (IFD), if so equipped; see DOM, TR–9.

### 2. Condition of Pole and Structures

- ☐ Damage/deteriorated pole
- ☐ Crossarm broken, split, or extremely canted
- ☐ Washout or excavation around pole or anchor
- ☐ Check pole setting depth marked from brand. (Brands are at 10 feet on 60-foot poles and less; at 13 feet for poles taller than 60 feet.)
- ☐ Damage down guys, guy guard missing (Install guard where required.)
- ☐ Excessive slack on down guys or span guys
- ☐ Visually check pad-mounted equipment for movement and cabinet secured or locked.
- ☐ Visually check BURD lids, vault lids, vent pipes, and handhole lids.

### 3. Conductors and Covered Conductors

- ☐ Inadequate primary, secondary, or service ground clearances
- ☐ Exposed conductor (covering falling off) – service drops, secondary, and primary
- ☐ Excessive slack in primary conductors in high wind areas
- ☐ Clearance from building, television or radio antenna, billboard signs, scaffolding, streetlights, communication cable or hazardous locations for primary, secondary or services
- ☐ Trees touching or above primary conductors or covered conductors (overhangs) unless special encased aerial bundled cable (18 inches required)
- ☐ Hazardous tree conditions, limbs over wire, dead or decaying trees, palm fronds
- ☐ Foreign objects in line, such as kites, Mylar balloons
- ☐ Bare conductors in rack construction
- ☐ Bare service drops
- ☐ Deflection, strain or abrasion on service drops and secondaries
- ☐ Abandoned conductors

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4. Risers

- ☐ Riser straps, blocks broken
- ☐ Opening in riser conduit coupling, damaged
- ☐ Riser in climbing space in rack construction

5. Climbing Space

- ☐ Obstructions in climbing space (bolts, wire)
- ☐ Climbing space obstructed by cable TV or phone, and a hazard to climb

6. General Conditions

- ☐ Unlocked substations, pole switches, equipment
- ☐ Verify circuit-to-circuit map for additional equipment and tap lines not identified.
- ☐ Check status of fault indicators with circuit map inventory.
- ☐ Validate asset information – maps, asset characteristics, location
- ☐ Unauthorized attachments
- ☐ Foreign attachments to SCE ground

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## Attachment 1–2: Frequency of Apparatus Inspections

Facility/Equipment <sup>a/</sup>	Inspection Frequency (yr)	DOM Section
<u>Apparatus</u>		
Capacitors, Fixed (Overhead)	5	CA–1
Capacitors,. Fixed (Padmounted)	5	CA–1
Capacitors,. Switched (Overhead)	5	CA–2, CA–3, CA–4
Capacitors, Switched (Padmounted)	5	CA–2, CA–3, CA–4
Fault Interrupters (Padmounted)	5	SW–9, SW–12
Fault interrupters (Underground)	3	SW–9
Network Protectors	1	PD–3
Preferred Emergency Equipment (Overhead & Padmounted)	5	SW–8
Preferred Emergency Equipment. (Underground)	3	SW–8
Reclosers (Overhead)	5	SW–1
Reclosers (Padmounted)	5	SW–13
Regulators	5	TR–4
Remote Controlled Switches (Underground)	3	SW–11
Remote Controlled Switches (Overhead & Padmounted)	5	SW–11

<sup>a/</sup> For inspection frequencies of equipment located in customer substations, co-generation interface sub-stations and small power-production interface substations, see DOM SC-1.

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