



# Job Aid: Overhead Inspection

## Summary

This job aid is designed to assist Inspectors in assessing and prioritizing **compelling abnormal conditions** on overhead facilities during scheduled GO 165 and Wildfire Safety Inspections.

It is meant to provide guidance on issues that Inspectors may encounter most frequently during an inspection and is not intended to be an all-inclusive listing of all abnormal conditions or corrective actions.

**Field assessments** are activities performed by Inspectors to identify Compelling Abnormal Conditions.

**Compelling Abnormal Condition** is defined as being any electric distribution pole, equipment, component, conductors, as well as trees, vines, vegetation and third-party infractions that may adversely impact public safety and/or service reliability in the next five (5) years.

## Target Audience

Qualified Electrical Workers (QEW).

## Before You Start

- Follow all applicable safety rules, procedures, and protocols.
- Wear appropriate personal protective equipment (PPE) for specific tasks and work area.

## Table of Contents

Cellular Antennas .....	4
1. Broken/Damaged Cellular Antenna.....	4
2. Cellular Antenna - Inadequate Clearance .....	4
Climbing Space.....	4
1. Climbing Space - Obstructed.....	4
2. Climbing Space – Obstructed by Vegetation.....	5
Conductor .....	8
1. Conductor Broken/Damaged .....	8
2. Tie Wire Damaged .....	14
3. Floaters .....	15
4. Broken or Unsecured Service Bob .....	16
5. Conductor Clearances (Refer to Clearance Job Aid).....	16
6. Conductor: Uneven Sag.....	16
Cutouts / Fuses / Switches .....	16
1. Damaged Arcing Horns or Arc Quenchers.....	16
2. Bushing Mounted Cutout or Crossarm Mounted Cutout.....	17
3. Switch Handle/Control Box is not Locked.....	18
Distribution Towers .....	18
Framing.....	18
1. Crossarm Broken/Deteriorated.....	18
2. Bridging Exists and Needs to be Repaired .....	19
3. Underarm Bus Not Securely Attached .....	20
4. Wood Pin Burnt/Tracking or Broken .....	22
Grounds / Ground Molding.....	24
1. Exposed Ground below 8'.....	24
2. Exposed Ground above 8' to the Communication Level .....	26
3. Ground Molding Unsecured/Loose .....	27
4. Exposed Ground Rod .....	28
5. Broken Ground .....	29
Guys / Anchors .....	29
1. Down Guy Preform Buried .....	29
2. Visible Portion of Anchor Rod has Significant Corrosion .....	33
3. Guy Broken/Slack .....	35
4. Guy Insulator Broken/Missing .....	39
5. Down Guy Grounded above Guy Insulator (vegetation or other) .....	40
6. Down Guy Marker Missing/Damaged .....	41
Idle Facilities.....	42
1. Identifying and Documenting Idle Facilities .....	42
2. Energized Electric Line Facility No Longer Used to Serve Customer Load.....	45
3. De-Energized Electric Line Facility Already Identified on a Pending EC Notification but Not Mapped.....	46
Insulators.....	46
1. Arcing or Tracking on Insulators .....	46

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019**

2. Damaged Insulators.....	47
3. Squatters.....	51
4. Flying Bells.....	52
Lightning Surge Arresters.....	53
1. Flashed/Blown.....	53
Markings.....	53
1. High Voltage Sign Not Installed as Required .....	53
2. Operating Number Incorrect / Illegible/ Missing .....	55
3. Damaged or Missing Visibility Strips on Poles/Guy Markers .....	57
Oil-filled Equipment.....	60
1. Equipment Oil: Leaking/Weeping Stain .....	60
2. Corrosion.....	62
Poles.....	65
1. Solely-Owned Poles with Third-Party Attachments .....	65
2. Broken Poles .....	65
3. Leaning Pole.....	72
4. Deformed Pole .....	75
5. Soil Excessively Eroded or Washed Away at Base of Pole .....	76
6. Pole Steps.....	76
7. Mud sill .....	77
8. Transmission Poles.....	77
Riser Molding.....	78
1. Broken/Missing Riser Ground.....	78
2. U-Shape Riser Molding Broken/Damaged or Unsecured .....	78
SmartMeter/SCADA Equipment .....	79
1. Broken/Damaged SmartMeter Relay/Access Point/Data Collector Unit or SCADA Equipment .....	79
Streetlights.....	80
1. Broken or Damaged Streetlight Pole.....	80
2. Day Burner .....	81
3. Missing Streetlight .....	81
Trees.....	81
1. Trees within 4 Feet of a Primary Line.....	81
2. Tree Attachments .....	82
3. Trees Causing Strain or Abrasion to a Secondary Conductor or Service .....	82
Wildlife Protection.....	84
1. Existing Migratory Bird Protection Damaged.....	84
2. Existing Wildlife Protection Damaged.....	84
Clearance Evaluation Job Aid.....	85
Crossarm Evaluation Job Aid .....	94
Crossarm Evaluation Job Aid .....	95

## Cellular Antennas

### 1. Broken/Damaged Cellular Antenna

**General Guidance:** If the broken antenna is creating a non-emergency safety or reliability issue, create a third party notification.

If the antenna is causing an emergency safety or reliability issue, contact your supervisor for instructions. Do not leave the location until it is made safe.

**Minor Work:** No

**Related Documents:** 027911

### 2. Cellular Antenna - Inadequate Clearance

**General Guidance:** Create a third party notification if a cellular antenna does not have adequate clearance from supply lines or equipment.

If the antenna is causing an emergency safety or reliability issue, contact your supervisor for instructions. Do not leave the location until it is made safe.

**Minor Work:** No

**Related Documents:** 027911, T&D Bulletin 2009-20

## Climbing Space

### 1. Climbing Space - Obstructed

**General Guidance:** Evaluate pole to determine whether there is an obstruction caused by PG&E facilities or by third party facilities that is causing a compelling safety issue – based on the location of the pole and exposure to the worker - that needs to be addressed in 5 years.

Example: Equipment pole that cannot be accessed in a bucket truck.

Example where the climbing space **is not** a compelling condition: Equipment pole that is accessible 100% of the time in a bucket

**For PG&E obstructions:** Create an EC notification.

**For third party obstructions:** Create a third party notification if they pose a significant safety hazard.

If a third party obstruction is causing an emergency safety or reliability issue, contact your supervisor for instructions.

**Minor Work:** No

**Related Documents:** None



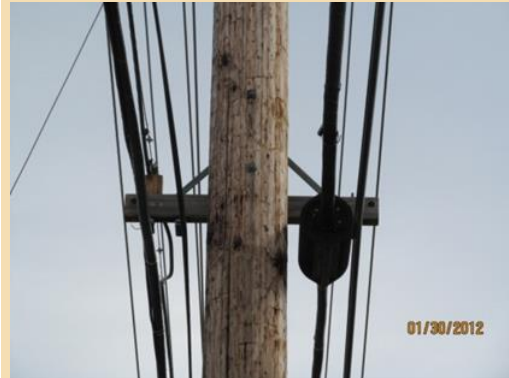
**COMMUNICATION IN CLIMBING SPACE**

**At this Location:** Obstructed climbing space, access via bucket truck from street below. Also clearance issues between communications facilities and the PG&E down guys.

**Perform Minor Work:** No

**Write Third Party Notification:** No

**Write EC Form:** No

**CLIMBING SPACE OBSTRUCTED**

**At this Location:** Climbing space obstruction by communication facilities on pole with equipment. Communication messengers are too close. No bucket truck access.

**Perform Minor Work:** No

**Write Third Party Notification:** Yes

**Write EC Form:** No

## 2. Climbing Space – Obstructed by Vegetation

**General Guidance:** For incidental vegetation in climbing space that can be moved when climbing, or quickly cleared prior to climbing, no action is required.

For major vegetation that cannot be quickly cleared or moved prior to climbing, evaluate the pole:

- Is there supply equipment on the pole that may need to be operated during emergency conditions?
- Should the obstruction be cleared for any other safety or reliability reason in the inspector's judgment?

If the answer is yes to any of these questions, the inspector will need to create an EC Notification to clear vegetation unless it can be addressed as minor work.

**Minor Work:** Yes

**Related Documents:** None

**OBSTRUCTED CLIMBING SPACE**

**At this Location:** Obstructed climbing space. Inspector cannot see enough of the pole to complete Inspection (heavy vegetation, cannot see through) No equipment on pole. The only reason to address is to complete the inspection.

**Perform Minor Work:** No

**Write Third-Party Notification:** No, only need clearing to perform inspection

**Write EC Form:** Yes

- FDA=OH Facility / Limited Access/Obstruct / Inspect (Primary)
- FDA=OH Facility / Limited Access/Obstruct / Remove
- Priority "B", 0-3 months depending upon exposure; must complete before CPUC due date for map

**CLIMBING SPACE OBSTRUCTED**

**At this Location:** Climbing space obstruction, able to perform inspection, no equipment on pole (able to see guys, able to see up the pole under tree)

**Perform Minor Work:** No

**Write Third Party:** No

**Write EC:** No, not compelling

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****POLE WITH VEGETATION**

**At this Location:** 360° pole inspection not possible

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA= OH Facility / Limited Access/Obstruct / Inspect (Primary)
- FDA=OH Facility / Limited Access/Obstruct / Remove
- Priority "B", 0-3 months depending upon exposure; must complete before CPUC due date for map

**IVY COVERED POLE**

**At this Location:** 360° pole inspection not possible

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA= OH Facility / Limited Access/Obstruct / Inspect (Primary)
- FDA=OH Facility / Limited Access/Obstruct / Remove
- Priority "B", 0-3 months depending upon exposure; must complete before CPUC due date for map

## Conductor

### 1. Conductor Broken/Damaged

#### General Guidance:

Visually check all conductors (primary/secondary/service), associated attachments and dead-ends for damage throughout the entire span. Examples: cracked or damaged insulation, arcing or burn marks, corrosion, frayed conductor, deterioration, annealing, broken strands, bird caging, etc.

Visually check for excessively-corroded or damaged connectors and dead-end hardware (potential to drop conductor).

Write EC notification to replace insulink and mini-wedges or any improperly used secondary connectors used in primary.

Inspect all connections; write EC notification to replace all connectors with dissimilar metals that are incorrectly installed (copper over aluminum is incorrect).

Visually check all auto-splices in a span. Write EC notification for automatic splices that appear to be damaged, corroded or tied in too close to the insulator, preventing free movement of the splice with the conductor.

Write EC notification for any spans with uneven conductor.

Write EC notification to replace annealed copper conductor (6 or 4 solid).

For all open wire secondary/rack construction, identify missing spreaders for >135 ft span; for spans that are longer, install spreader brackets every 135' when possible, otherwise, write EC notification to have spreader brackets installed where bucket truck accessible. If no access, write EC to have the vegetation cleared.

#### In HFTD areas:

Record all open wire locations on the Pronto form.

Record number of auto splices in a span on the Pronto Form.

Record all Kierneys and PGs on the Pronto form. Write EC notification for those that appear to be corroded or damaged.

Identify and record improperly installed chance clamps and record them on the Pronto form. (no tap guard under chance clamp for conductor smaller than 1/0, installed incorrectly, installed on tap line supporting more than two transformers, or used on any other type of equipment other than a transformer). Write EC notification for those that appear to be corroded or damaged.

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019**

---

**Minor Work: Yes**



- Repair damaged conductor as minor work if possible and if safe to do so.

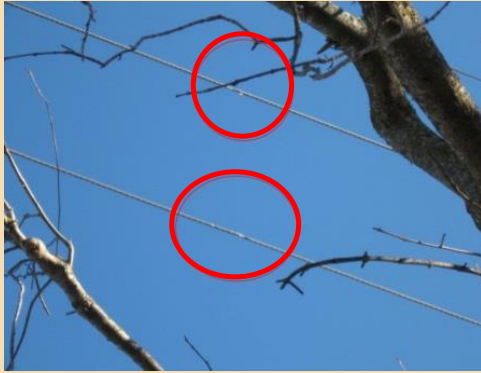
**Minor Work: Yes**

- Fill out an EC Form to account for this **capital** minor work
- Charge time to your Division's standing order
- FDA: Conductor / Damaged / Replace
- Sign EC Form as completed

**EC Form:** Yes, if not able to perform minor work

- FDA: Conductor / Damaged / Replace
- Select the Priority and Due Date based upon Compelling Abnormal Conditions

BROKEN SERVICE NEUTRAL	DAMAGED/CRACKED GREY SERVICE
	
<p><b>At this Location:</b> Broken service neutral</p>	<p><b>At this Location:</b> Cracked grey service. Older grey services tend to crack and will appear to have rings around the insulation.</p>
<p><b>Perform Minor Work:</b> Yes, if safe to do so. If you replace the service conductor, this is capital Minor Work.</p> <p>Fill out EC Form to account for this minor work; charge time to your Division standing order</p>	<p><b>Perform Minor Work:</b> Yes, if safe to do so. If you replace the service conductor, this is capital Minor Work.</p> <p>Fill out EC Form to account for this minor work; charge time to your Division standing order</p>
<p><b>Write Third Party Notification:</b> No</p>	<p><b>Write Third Party Notification:</b> No</p>
<p><b>Write EC Form:</b> Yes, if minor work is not possible, or to document completed capital minor work</p> <ul style="list-style-type: none"> <li>• FDA=Conductor / Broken/Damage / Repair or Replace</li> <li>• Priority "A", follow Emergency Process</li> </ul>	<p><b>Write EC Form:</b> Yes, if minor work is not possible, or to document completed capital minor work</p> <ul style="list-style-type: none"> <li>• FDA=Conductor / Broken / Replace - OR</li> <li>• FDA=Conductor / Damaged / Replace - OR</li> <li>• FDA=Conductor / Burnt / Replace</li> <li>• Priority "B", 0-3 months depending upon exposure</li> </ul>

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****DAMAGED SECONDARY****At this Location:** Damaged strands**Perform Minor Work:** No**Write Third Party Notification:** No**Write EC Form:** Yes

- FDA= Conductor / Damage / Repair
- Priority "E", 3-12 months depending upon exposure

**EXPOSED SERVICE CONNECTOR****At this Location:** Exposed conductors**Perform Minor Work:** Yes, if safe to do so.**Third-Party Notification:** No**Write EC Form:** Yes, if minor work is not possible

- FDA= Conductor / Broken/Damage / Repair
- Priority "E", 3-12 months depending upon exposure



**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****CONDUCTOR TEARING APART**

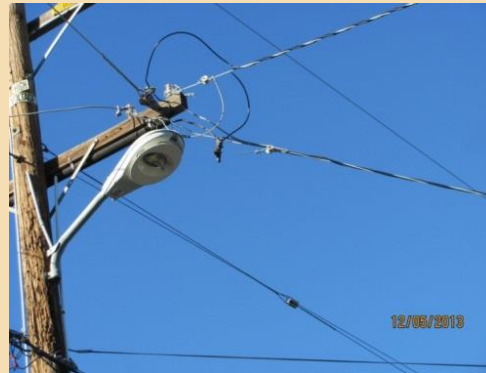
**At this Location:** Primary conductor damage (possibly shotgun)

**Perform Minor Work:** No

**Third-Party Notification:** No

**Write EC Form:** Yes

- FDA= Conductor / Broken/Damage / Repair
- Priority "B", 0-3 months depending upon exposure

**HARDWARE BROKEN**

**At this Location:** The #6 solid copper is broken causing strain on the conductor. Unsecured service.

**Perform Minor Work:** Yes, if safe to do so

**Write Third-Party Notification:** No

**Write EC Form:** Yes, if minor work is not possible

- FDA= Hardware/Framing / Broken/Damaged / Repair
- Priority "E", 3-12 months depending upon exposure



**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****OVERHEAD SERVICE STRAIN  
ABRASION**

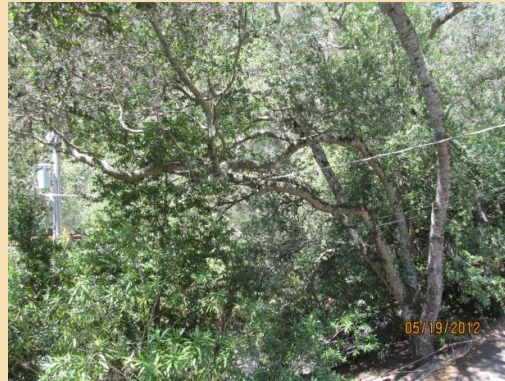
**At this Location:** Service strain abrasion, with possible burning at some sections. Damaged insulation.

**Perform Minor Work:** Yes, if safe to do so. If you replace the service conductor, this is capital Minor Work.  
Fill out EC Form to account for this minor work; charge time to your Division standing order

**Write Third Party Notification:** No

**Write EC Form:** Yes, if minor work is not possible, or to document completed capital minor work

- FDA=Conductor / Broken/Damaged/ Repair or Replace
- Priority "E", 3-12 months depending upon exposure, in comments add note about strain abrasion burnt conductor

**OVERHEAD SERVICE STRAIN  
ABRASION**

**At this Location:** Service strain abrasion, no slack remaining

**Perform Minor Work:** No

**Write Third Party Notification:** Yes

**Write EC Form:** No

## 2. Tie Wire Damaged

### General Guidance:

Ensure splices are not located under tie wires. Repair damaged secondary tie wire as minor work if possible.

Visually inspect hand ties to identify wear prior to failure; utilize bucket truck, binoculars or camera to get a closer look - especially on older installations.

Document damage to primary on an EC Form.

**Minor Work:** Yes, on secondary only

- Repair damage to secondary as minor work if possible and if safe to do so.
- IF not able to perform minor work, THEN write an EC Form.

**EC Form:** Yes, only if not able to perform minor work on secondary or primary damaged/broken

- FDA: Tie Wire/ Broken/Damaged / Repair or Replace
- Select the Priority and Due Date based upon Compelling Abnormal Conditions

**Related Documents:** 022088

### 3. Floaters

**General Guidance:** Floaters are **always** emergency, priority A EC notifications (primary or secondary); stand-by is always required.

**Minor Work:** No

**Related Documents:** 022088

#### FLOATER 4 KV



**At this Location:** Floater 4 KV, conductor is not contacting the arm. Rotten crossarm.

**Perform Minor Work:** No

**Write Third Party Notification:** No

**Write EC Form:** Yes

- FDA=Crossarm / Decayed/Rotten/ Replace
- Priority "A", follow Emergency Process

## 4. Broken or Unsecured Service Bob

**General Guidance:** Repair or Replace broken insulator, wires, pins, etc.

**Minor Work:** Yes

- Make repairs as minor work if possible and if safe to do so.
- IF not able to perform minor work, THEN write an EC Form.

**EC Form:** Yes

- FDA: Hardware / Broken/Damaged / Repair or Replace
- Select the Priority and Due Date based upon Compelling Abnormal Conditions

**Related Documents:** None

## 5. Conductor Clearances (Refer to Clearance Job Aid)

### 6. Conductor: Uneven Sag

**General Guidance:** Look for any spans with uneven conductor, different tension, "bellies" (one is lower than conductor next to it). When the wind blows, conductors will sway at different rates, etc., which could result in phase to phase contact. Look for damaged dead-end hardware that may cause uneven sag. Look for signs of annealing, excessive sag, splices or discoloration that can result in failed conductor.

Identify clearance issues utilizing the Clearance Evaluation Job Aid.

**Minor Work:** Yes.

- Make repairs as minor work if possible and if safe to do so. Re-sag or install spreader brackets.
- IF not able to perform minor work, THEN write an EC Form.

**EC Form:** Yes

- FDA: Conductor / Sag / Adjust
- Select the Priority and Due Date based upon Compelling Abnormal Conditions

**Related Documents:** None

## Cutouts / Fuses / Switches

### 1. Damaged Arcing Horns or Arc Quenchers

**General Guidance:** Call Restoration Dispatch to get a T-Man dispatched to the location to create a COE (CE) notification. Consider installing a warning tag on the pole. No EC should be created; write the location on map and Daily Log.

**Minor Work:** No

**EC Form:** No

**Related Documents:** 066195

## 2. Bushing Mounted Cutout or Crossarm Mounted Cutout

**General Guidance:** Identify all locations with bushing mounted cutouts. IF hairline fractures / broken skirts are observed, THEN write an EC Form.

In HFTD areas record all locations with bushing mounted cutouts on the Pronto form.

In HFTD areas record all locations with non-exempt cutouts on the Pronto form.

For non-exempt equipment locations that do not have 10' of clearing around base of pole: Write a Vegetation notification if clearing around pole is needed.

Pole with Vegetation Management System (VMS) tagging.

**Minor Work:** No

**EC Form:** Yes

- FDA: Cutout / Broken/Damaged / Replace
- Select the Priority and Due Date based upon Compelling Abnormal Conditions

**Related Documents:** 056425



### BROKEN DAMAGED CROSSARM MOUNTED CUTOUT



**At this Location:** Broken/Flashed cutout

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Cutout / Broken/Damaged / Replace
- Priority "E", 3-12 months depending upon exposure
- COE = No

### BROKEN INSULATOR ON AIR SWITCH



**At this Location:** Broken insulator on air switch

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Cutout / Broken/Damaged / Replace
- FDA Switch / Broken/Damaged / Replace
- Priority "E", 3-12 months depending upon exposure
- COE = Depending on voltage & Insulation value remaining if not operable

### 3. Switch Handle/Control Box is not Locked

**General Guidance:** Ensure that boxes or enclosures located 8 feet or less above the ground are locked.

**Minor Work:** Yes

- Perform minor work if possible and if safe to do so.
- IF not able to perform minor work, THEN write an EC Form.

**EC Form:** Yes, only if not able to perform minor work

- FDA: Switch / Broken / Repair or Hardware / Missing / Install
- Select the Priority and Due Date based the 'Probability & Impact Chart' and exposure risks

**Related Documents:** 066195

## Distribution Towers

**General Guidance:** Inspectors are required to inspect distribution towers for the following:

- Steel Covered by Earth
- Rust or Corrosion at Tower Footings
- Tower Footing Damaged
- Tower Member Loose
- Marking Hi-Sign Missing/Not Legible
- Guarding - Tower Not Guarded (Where Applicable)
- Guy Attachment, Turn Buckles, or Preformed Guys Loose
- Tower Rusty – Needs Paint

**Minor Work:** No

**Related Documents:** 022168, Utility Standard

## Framing

### 1. Crossarm Broken/Deteriorated

**General Guidance:** Refer to TD-2305M-JA\_07 "Crossarm Evaluation" Job Aid in this job aid. Evaluate crossarms to ensure all bolts and hardware are tight and present. Write up rolled over crossarms and loose hardware to be repaired or tightened.

If any crossarm needs to be addressed in the next 5 years, write EC notification to replace wood crossarm with a composite arm.

**Minor Work:** No

**Related Documents:** Crossarm Evaluation TD-2305M-JA\_07, 015202, G12021

## 2. Bridging Exists and Needs to be Repaired

**General Guidance:** Visual observation of broken / unattached bridge wire. Write an EC Form.

In HFTD areas, record all locations where bridging is absent on the Pronto form.

**Minor Work:** No

**Related Documents:** 056845

### BRIDGING



**At this Location:** Pole, burnt, pole failed

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:**

- FDA = Hardware/Framing / Broken/Damaged / Replace
- Priority "E", 3-12 months depending upon exposure



### 3. Underarm Bus Not Securely Attached

#### General Guidance:

It is a requirement to have at least two attachment points, secured to an underarm bus, one on each side.

It is a requirement to use the following corrosion resistant materials for attaching the underarm bus to the crossarm: straps, plumber's tape, lags, galvanized nails, staples, screws, bolts, zip ties, etc.

If an inspector finds an underarm bus secured with non-authorized material, such as duct tape, electrical tape, or rope, it must be secured by at least two additional approved attachment points.

When an inspector re-secures a bus, it must be brought up to construction standards; four attachment points using corrosion resistant materials.

Complete as minor work/re-secure the bus. IF it cannot be completed as minor work, then fill out EC if compelling and needs to be addressed within 5 years.

**Minor Work:** Yes

**Related Documents:** 021924, Crossarm Evaluation TD-2305M-JA\_07

#### UNDER-ARM BUS LOOSE AND DETERIORATED



Side View



Front View

**At this Location:** UAB deteriorated, partial repair with rope, secured with one strap.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Under-Arm Bus / Broken/Damaged / Repair
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)



**UNDER-ARM BUS LOOSE**

**At this Location:** UAB Loose

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:**

- FDA=Under-Arm Bus / Broken/Damaged / Repair  
Priority "E", 3-12 months depending upon exposure

#### 4. Wood Pin Burnt/Tracking or Broken



##### General Guidance:

Primary wood pins: If the primary wood pin is leaning or broken, or if there are signs of burning or tracking, create a 0-3 month Priority "B" EC Form.

Secondary wood pins: Create an EC notification if compelling (needs to be addressed within 5 years).

**Minor Work:** No

**Related Documents:** 015202, G12021, TD-2305M-JA\_07 Crossarm Evaluation

PIN BROKEN	PIN BROKEN
	
<p><b>At this Location:</b> Primary wood pin is broken, and the conductor is laying on the crossarm. Wood pin arm replace with Composite arm</p>	<p><b>At this Location:</b> Secondary wood pin is broken, and the conductor is laying on the crossarm. Woodpin arm. Replace arm.</p>
<p><b>Perform Minor Work:</b> No</p>	<p><b>Perform Minor Work:</b> Yes, replace wooden pin with steel pin.</p>
<p><b>Write Third-Party Notification:</b> No</p>	<p><b>Write Third-Party Notification:</b> No</p>
<p><b>Write EC Form:</b> Yes</p> <ul style="list-style-type: none"> <li>• FDA=Hardware/Framing / Broken/Damage / Replace</li> <li>• FDA= Crossarm/Broken Damaged/Replace</li> <li>• Priority "A", follow Emergency Process</li> </ul>	<p><b>Write EC Form:</b> Yes</p> <ul style="list-style-type: none"> <li>• FDA= Hardware/Framing / Broken/Damage / Replace</li> <li>• FDA= Crossarm/Broken Damaged/Replace</li> <li>• Priority "E", 3-12 months depending upon exposure OR</li> <li>• Priority "A", follow Emergency Process, depending on location, exposure, etc.</li> </ul>

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****PRIMARY WOOD PIN AT ANGLE**

**At this Location:** Deteriorated primary wood pin at angle. All insulators need to be replaced. Replace the crossarm with a composite arm.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA= Crossarm/Broken Damaged/Replace
- FDA=Hardware/Framing / /Broken/Damaged / Replace
- Priority "E", 3-12 months depending upon exposure

**PRIMARY WOOD PIN SQUATTER**

**At this Location:** Primary wood pin squatter. Replace Crossarm. No armor rod with hand-tie.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA= Crossarm/Broken Damaged/Replace
- FDA=Insulator / Primary Squatter/ Replace
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

## Grounds / Ground Molding

### 1. Exposed Ground below 8'

**General Guidance:** Exposed grounds 8 feet or less from the ground must be covered. Inspectors must make every effort to cover the ground as minor work. If the exposed ground can be completed as minor work - preferred repair method is to use 1-1/2 inch plastic molding and not wood molding; if wood molding is used to make repair, use straps and not staples.

If it is not possible to cover the ground as minor work, create a minimum priority 'F' EC Form. Consider a higher priority based on how much of the ground is exposed, and on the amount of public exposure. The correct FDA is Ground/Exposed/Repair and not Molding Broken/damaged/repair or replace.

Gaps in between molding segments should be covered if, in the inspector's judgment, they are large enough to allow human contact.

**Minor Work:** Yes

**Related Documents:** Utility Bulletin TD-2999B-023

#### EXPOSED GROUND



**At this Location:** Exposed grounds near sidewalk

**Perform Minor Work:** Yes, at a minimum make safe

**Write Third-Party Notification:** No

**Write EC Form:** Only if not able to perform minor work

- FDA=Ground / Exposed / Repair
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****REPAIR WITH 1.5" MOLDING**

**Before:** Copper Wire sticking out from under the wood molding



**After:** 1.5 inch u-shaped molding installed over existing wood molding

**At this Location:** Wood molding with ground exposed

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** Only if not able to perform minor work

**REPAIR WITH 2" PLASTIC**

**At this Location:** Condition acceptable after repair of exposed ground

**REPAIR WITH WOOD MOLDING**

**At this Location:** Condition acceptable after repair with wood molding

## 2. Exposed Ground above 8' to the Communication Level

**General Guidance:** If there are communication facilities on the pole, exposed grounds above 8 feet to the communication level must be covered. Cover the ground as minor work if possible. If not, create an EC Notification.

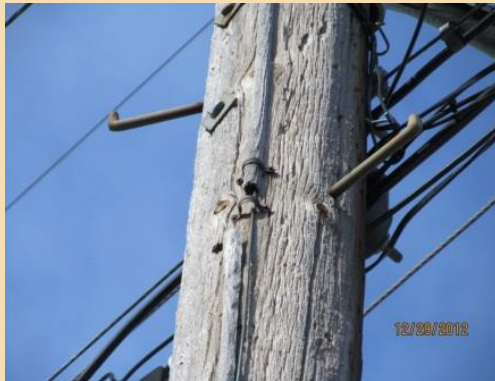
Gaps in between molding segments should be covered if, in the inspector's judgment, they are large enough to allow human contact.

If the pole is not a joint pole, no action required, because there is no exposure to the communication worker.

**Minor Work:** Yes

**Related Documents:** 021904, 036229

### EXPOSED GROUND AT COMMUNICATION LEVEL



**At this Location:** Exposed ground at communications level. Wood molding broken in climbing space.

**Perform Minor Work:** Yes, if safe to do so.

**Write Third-Party Notification:** No

**Write EC Form:** Only if unable to perform minor work.

- FDA=Ground / Exposed / Repair
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

### EXPOSED GROUND DUE TO TWISTED MOLDING



**At this Location:** Exposed ground in wood molding.

**Perform Minor Work:** Yes, when safe to do so.

**Write Third-Party Notification:** No

**Write EC Form:** Only if unable to perform minor work.

- FDA=Ground / Exposed / Repair
- FDA=Molding / Broken/Damaged / Repair
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)



### 3. Ground Molding Unsecured/Loose

**General Guidance:** Ensure that the molding is in good condition and secured to the pole.

Look for unsecured and loose wood ground molding, unglued PVC ground molding joints, molding joints that have come apart exposing the ground wire, etc.

Gaps in between molding segments should be covered if, in the inspector's judgment, they are large enough to allow human contact.

When making repairs - must meet construction standards.

**Minor Work:** Yes

**Related Documents:** 02904

#### WOOD MOLDING NOT SECURE EXPOSING GROUND



**At this Location:** Wood molding not secure, allowing human contact.

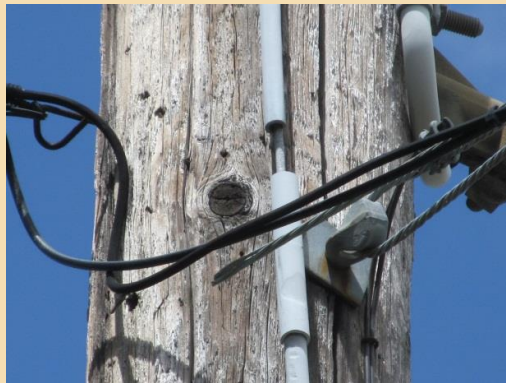
**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** Only if unable to perform minor work.

- FDA=Ground / Exposed / Repair
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

#### PVC MOLDING NOT SECURE EXPOSING GROUND



**At this Location:** PVC molding not secure, due to failure of previous repairs, allowing human contact.

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** Only if unable to perform minor work.

- FDA=Ground / Exposed / Repair
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

**PVC MOLDING SECURED**

**At this Location:** PVC molding adequately secured with staples upon arrival. No action is required.

**WOOD MOLDING SECURED**

**At this Location:** Wood molding adequately secured with straps spacing 36 inches or less upon arrival. No action required.

#### 4. Exposed Ground Rod

**General Guidance:** If the ground rod can be permanently covered as minor work, do so. If not, create an EC Form.

**Minor Work:** Yes

**Related Documents:** None

**EXPOSED GROUND ROD**

**At this Location:** Exposed ground rod

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)



## 5. Broken Ground

**General Guidance:** Inspector identifies a broken ground; refer to bulletin TD-2999B-023 for specific guidance about testing/replacing grounds

**Minor Work: Yes**

- Perform minor work if possible and if safe to do so.
- IF not able to perform minor work, THEN write an EC Form.

**Related Documents:** Utility Bulletin TD-2999B-023

## Guys / Anchors

### 1. Down Guy Preform Buried

**General Guidance:**

Top of anchor head must be above grade. Expose anchor as minor work. Evaluate the unburied anchor guy pre-forms and visually inspect them.

Perform minor work to add extension or grade around anchor so the anchor head becomes visible, then no EC is required.

If the pre-form cannot be unburied as minor work, create an EC notification.

Notes:

- If you cannot dig up the anchor, and create an EC with a photo of a buried anchor **only** - the Gatekeeper will **not know** if the anchor can be replaced or if an extension can be installed; you should make every effort to dig up the anchor to perform a complete assessment. If your photo is of a buried anchor only, the general rule of thumb is that the EC will be created to **replace** the anchor.
- If you **cannot** dig up the anchor, but you can see most of the pre-form - an extension can *usually* be added (only one extension can be installed)

**Minor Work: Yes**

- Perform minor work if possible and if safe to do so.
- IF not able to perform minor work, THEN write an EC Form.

**Related Documents:** 022221

**BURIED ANCHOR****Before:** Vegetation covers anchor**After:** Vegetation cleared from anchor

**At this Location:** Anchor below grade overgrown with vegetation. After minor work inspector decides if the anchor can be adjusted or needs replaced.

**Perform Minor Work:** Yes, remove the vegetation

Yes, expose anchor and evaluate condition/corrosion

Yes, preferred method is to adjust anchor by adding extension

**Write Third-Party Notification:** No

**Write EC Form:** If cannot be addressed as minor work

- FDA=Anchor / Soil/Eroded/Graded / Replace (if the anchor cannot be adjusted)
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

**ANCHOR EXTENSION****Anchor extension****Close-up**

**At this Location:** Inspector performed minor work, exposed anchor, evaluated anchor to be in good condition so that extension could be installed, then installed extension. (Back fill not shown)

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** No

**ANCHOR COVERED BY CONCRETE****Anchor covered by concrete****Close-**

**At this Location:** Anchor covered by concrete

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

FDA=Anchor / Soil/Eroded/Graded / Replace

At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

**ANCHOR BURIED BY VEGETATION****Anchor buried by roots****Anchor buried by tree**

**At this Location:** Anchor buried by ivy roots / tree

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Anchor / Soil/Eroded/Graded / Replace
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

## 2. Visible Portion of Anchor Rod has Significant Corrosion

**General Guidance:** IF the anchor rod is significantly corroded, THEN create an EC Form.

**Minor Work:** No

**EC Form:** Yes, only if not able to perform minor work

- FDA: Anchor Corroded Replace
- Select the Priority and Due Date based Compelling Abnormal Conditions and exposure

**Related Documents:** 025998



**ANCHOR ROD WITH SIGNIFICANT CORROSION****Anchor above ground****Below**

**At this Location:** Corroded Anchor

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Anchor / Corroded / Replace
- Priority "E", 3-12 months depending upon exposure

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****3. Guy Broken/Slack**

**General Guidance:** Guys must be taut (straight, no belly). Tighten the guy as minor work if possible. If not possible, create an EC Notification.

If tightening the guy would exacerbate any pre-existing conditions on a facility (e.g. increase the lean of an already leaning pole, deform an already deforming pole), create an EC Notification with comments describing the situation.

**Minor Work:** Yes

**Write EC:** Select the Priority and Due Date based Compelling Abnormal Conditions and exposure

**Related Documents:** 022178

**11.1 Guy Clearance****GUY CLEARANCE**

**At this Location:** Acceptable solution through plastic barrier.

GO 95 requires 3" of radial clearance. Plastic barriers can be installed if less than 3" of clearance.

**GUY DAMAGED REPAIR**

**At this Location:** Guy tail extends beyond the preform near sidewalk, safety hazard.

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** Only if minor work cannot be performed.

- FDA Guy / Broken/Damaged/ Repair
- Priority "E", 3-12 months depending upon exposure

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****OVERGROWN GUY**

**At this Location:** Extensive dead ivy covering half of length of guy.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Guy / Broken/Damaged / Replace
- Priority "E", 3-12 months depending upon exposure

**TREE GROWING AROUND GUY**

**At this Location:** Tree growing around guy

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Guy / Broken/Damaged / Replace
- Priority "E", 3-12 months depending upon exposure – **OR** -
- FDA=Guy / Overgrown / Trim
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)



**SLACK GUY**

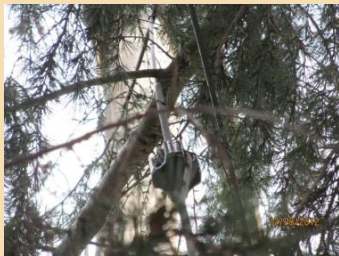
**At this Location:** Loose guy on left side

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** Yes, only if minor work is not possible

- FDA=Guy / Loose / Adjust
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

**GUY GROUNDED BY VEGETATION**

**Guy grounded  
by vegetation**



**Guy grounded  
by vegetation**



**Guy overgrown  
by vegetation**

**At this Location:** Guy grounded by vegetation, above the bob.

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** Yes, only if minor work cannot be performed

- FDA=Guy / Overgrown / Trim
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

**IVY ON GUY AND PRIMARY**

**At this Location:** Ivy on guy and on primary. Safety issues, possible energized guy and pole, transformer weeping – no oil on ground, evaluate per oil spill matrix.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Transformer / Leaks/Seeps/Weeps / Replace (primary)
- FDA=Guy / Overgrown / Trim
- Priority "B", 3 months or less depending upon exposure

**TREE LIMB GROWING AROUND GUY**

Guy through tree



Close-up

**At this Location:** Tree limb growing around guy, below the bob.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Guy / Strain/Abrasion / Remove
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

#### 4. Guy Insulator Broken/Missing

**General Guidance:** Guys in the cylinder of “proximity” to conductors less than 35kV:

- 8 ft. or less above or below the conductor level
- 6 ft. or less horizontally from the surface of the pole

Must be sectionalized and ungrounded. Ensure there is an intact guy insulator.

**Minor Work:** No

**EC Form:** Yes

- FDA: Guy / Broken/Damaged / Replace or Guy / Missing / Install
- Select the Priority and Due Date based Compelling Abnormal Conditions and exposure

**Related Documents:** 022178

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****5. Down Guy Grounded above Guy Insulator (vegetation or other)**

**General Guidance:** Ensure that all guys are not grounded above the guy insulator. Remove any foreign objects (e.g. vegetation) contacting and grounding the guy above the insulator as minor work. Clear so that new growth will not contact or ground the guy. (Rule of thumb is that growth per year is 1 foot, so trim back 5 feet.)

**Minor Work:** Yes

**Related Documents:** 022178

**DOWN GUY GROUNDED ABOVE GUY  
INSULATOR**


**At this Location:** Vine growing up and across the guy insulator grounding the guy.

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** Yes, only if minor work cannot be performed

- FDA=Tree/Vine / Overgrown / Remove
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)

**DOWN GUY GROUNDED ABOVE GUY  
INSULATOR CAUSING STRAIN AND  
ABRASION**


**At this Location:** Tree grounding the guy above the guy insulator causing strain and abrasion.

**Perform Minor Work:** Yes, if minor work not possible

**Write Third-Party Notification:** No

**Write EC Form:** Yes, only if minor work cannot be performed

- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)



## 6. Down Guy Marker Missing/Damaged

**General Guidance:** For poles installed **after 1996**, Guy Markers are required on **all** down guys. The markers must be a minimum 8 ft. in length. For poles installed **prior to 1996**, guy markers are **only required** on poles which are exposed to traffic. **Inspector should confirm the age of the pole via the date nail to verify the requirement.**

Install a single guy marker on multiple guys which are clamped together. For guys that are not clamped together, but on the same anchor, consider separate guy markers on each guy if the separation is large.

**Note:** Installing yellow colored guy marker does not negate the need to install visibility strips on the markers. Install visibility strips around traffic areas, on state highways, near curbs, driveways, etc. See visibility strip entry for more details.

**Note:** Install a segment of guy marker above cattle guards to ensure a minimum 8 ft. of guarding.

**Minor Work:** Yes

**Related Documents:** 06542, 022178, 99-34

### GUY MARKER MISSING



**At this Location:** Guy marker missing

**Perform Minor Work:** Yes, install new guy marker

**Write Third-Party Notification:** No

**Write EC Form:** No, perform minor work

### CATTLE GUARD LESS THAN 8 FT



**At this Location:** Cattle guard is less than 8 feet in length

**Perform Minor Work:** Yes, lower cattle guard and add guy marker to meet 8 feet requirement.

**Write Third-Party Notification:** No

**Write EC Form:** No, perform minor work

**DOWN GUY: MARKER NOT REQUIRED**

**At this Location:** Acceptable down guy attached to building, no marker required.



**At this Location:** Acceptable down guy in marsh, no marker required.

## Idle Facilities

### 1. Identifying and Documenting Idle Facilities

Compliance inspectors continue to identify and document idle lines as they would for any other field condition found, per the requirements and procedures in the Electric Distribution Preventative Maintenance (EDPM) Manual.

If idle lines are documented on hard copies (paper) rather than with mobile devices, Compliance inspectors update the Daily Log as follows:

- Create a new numbered entry.
- Write "IF" in the "Notification Type" column
- Include any applicable notes in the "Note" column.
- Create one IF Notification (TD-2459S-F01) for each section of idle line.

Example: If there is an idle line with five poles, only one IF Notification is required for the entire section of line. **Do not create an IF Notification for each pole.**

At a **minimum**, attach the following two attachments to each IF Notification:

- Photo of the field condition
- Map with the idle area clearly identified

**Do not** initiate an IF Notification or an EC Notification when **attachments to poles** (cross-arms, miscellaneous hardware, brackets, insulators, etc.) do not pose a safety or reliability risk to an idle facility.

Continue to document safety or reliability issues that meet criteria for vegetation notifications.

**NOTE:** Vegetation management personnel **do not** patrol or maintain vegetation on de-energized tap lines.

Identify specific field conditions on Page 1 of the IF Notification. (The Compliance supervisor refers to these field conditions to prioritize the IF Notification.)

- The service planning due date (SPDD) on the IF Notification is specific to the investigation only and is the date that the investigation must be completed.
- For a list of field conditions and related QCR actions, refer to Table 1, "IF Field Conditions and Investigations Priorities," below.

**NOTE:** QCRs use IF Notifications to document potentially idle facilities. Customer service delivery (CSD) personnel use IF Notifications to investigate, classify, and document idle facility investigation results.

**Table 1. IF Field Conditions and Investigation Priorities**

Condition	Action	Investigation Priority
Safety Situation/Risk	<ul style="list-style-type: none"> <li>• Mitigate hazard and make safe, which may include de-energizing.</li> <li>• Initiate an IF Notification for investigation.</li> <li>• Initiate an Electric Corrective (EC) Notification to document any other abnormal conditions to resolve.</li> </ul>	<p><b>High</b></p> <p>Submit to supervisor by end of day.</p> <p>Enter in SAP, and communicate to service planning personnel within 2 business days.</p>
<p>Idle transformers that do not have a blue sticker indicating a polychlorinated biphenyl (PCB) content of less than 5 parts per million (ppm) may be classified as High, Medium, or Low priority.</p> <p>Consider current field conditions, the transformer condition, and if the following sensitive locations are nearby:</p> <ul style="list-style-type: none"> <li>• Surface or ground waters</li> <li>• Sewers or sewage treatment systems</li> <li>• Private or public drinking water sources or distribution systems</li> <li>• Grazing lands</li> <li>• Vegetable gardens or agricultural areas</li> <li>• Daycare centers and schools</li> </ul>	<ul style="list-style-type: none"> <li>• If High priority, mitigate hazard and make safe, which may include de-energizing.</li> <li>• Initiate an IF Notification for investigation; priority is dependent upon field and equipment conditions.</li> <li>• Note the specific field conditions, transformer condition, and transform locations (see "Condition" column notes) in the Comments section.</li> </ul>	<p><b>High – Medium-Low</b></p> <p>To designate as High priority, consider the identified idle transformer locations, current condition of the transformer (see "Condition" column notes), and current condition of associated facilities (pole, crossarm, etc.)</p>
Future work required to maintain existing idle facility (EC Notifications to repair/replace/relocate facilities).	<ul style="list-style-type: none"> <li>• Initiate an IF Notification for investigation.</li> <li>• The IF priority depends on the due date of the EC.</li> </ul>	<b>High – Medium-Low</b>
PG&E and Modesto Irrigation District (MID) service areas.	<ul style="list-style-type: none"> <li>• Initiate an IF Notification for investigation.</li> </ul>	<b>Medium</b>
Idle facilities in raptor concentration zones (RCZs) with suitable habitat to support threatened or endangered raptors.	<ul style="list-style-type: none"> <li>• Initiate an IF Notification for investigation.</li> <li>• Initiate a Priority E, 3-month EC Notification to de-energize the facility.</li> </ul>	<b>Medium – Low</b>
<p>Oil-filled equipment considerations:</p> <ul style="list-style-type: none"> <li>• Surface or ground waters</li> <li>• Sewers or sewage treatment systems</li> <li>• Private or public drinking water sources or distribution systems</li> <li>• Grazing lands</li> <li>• Vegetable gardens or agricultural areas</li> <li>• Daycare centers and schools</li> </ul>	<ul style="list-style-type: none"> <li>• Initiate an IF Notification for investigation.</li> <li>• For idle transformers, note the absence or presence of a blue sticker on the IF Notification.</li> <li>• A blue sticker indicates a PCB content of less than 5 ppm.</li> </ul>	<b>Medium</b>
Potential use for agricultural pumps or vacant buildings.	<ul style="list-style-type: none"> <li>• Initiate an IF Notification for investigation.</li> </ul>	<b>Low</b>
Entire primary tap is identified as idle and is unused. No future work is required to maintain the existing idle facility.	<ul style="list-style-type: none"> <li>• Initiate an IF Notification for investigation.</li> <li>• Initiate a Priority E, 3-month EC Notification to de-energize the line.</li> </ul>	<b>Low</b>



**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019**

Identify idle facilities in RCZs.

Determine whether there is any potential use for agricultural pumps and/or vacant buildings.

**Classify facilities that are to remain in the field as follows:**

- De-Energized – Temporary Out of Service (TOS):
- Potential agricultural pump – TOS-AG
- Vacant building use – TOS-V

**Energized – Temporary Idle Facility (TIF):**

- Potential agricultural pump – TIF-AG
- Vacant building use – TIF-V

**The following Table 2 is a complete listing of TOS/TIF classifications.**

**Table 2. TOS/TIF Classifications**

Temporary Out of Service (TOS) De-Energized Temporary Idle Facility (TIF) Energized		
Facilities with a future use are grouped into one of the following classifications:		
TOS-AG	Potential agricultural use	De-energized
TIF-AG	Potential agricultural use	Energized
TOS-V	Potential service to an existing vacant building	De-energized
TIF-V	Potential service to an existing vacant building	Energized
TOS-CAP	Potential PG&E use for capacity or reliability	De-energized
TIF-CAP	Potential PG&E use for capacity or reliability	Energized
TOS-F	Future customer use identified by service planning	De-energized
TIF-F	Future customer use identified by service planning	Energized
TOS-MLX	Current Main Line Extension Agreement	De-energized
TIF-MLX	Current Main Line Extension Agreement	Energized
TOS-SFA	Current Special Facilities Agreement	De-energized
TIF-SFA	Current Special Facilities Agreement	Energized

**When pending maintenance is identified on idle facilities, write a minimum of two notifications:**

- One IF Notification (TD-2459S-F01) for the entire idle line
- One EC Notification per location requiring maintenance

**After identifying pending maintenance on idle facilities, ensure that the IF Notification has the Field Condition box, “Future work required to maintain existing idle facility,” checked. See Figure 1 below.**

- Enter the following note in the EC Notification comments section: “IDLE notification created.”
- Enter a note in both IF Notification and EC Notification comments with corresponding notification numbers, when available.

Figure 1

<b>Check All Field Conditions That Apply:</b>		
<input type="checkbox"/>	Safety conditions where de-energizing is needed to mitigate hazard	
<input type="checkbox"/>	Idle Facilities in raptor concentration zones with suitable habitat to support threatened or endangered raptors	
<input type="checkbox"/>	All Primary tap lines are identified as idle and are un-fused	
<input type="checkbox"/>	Potential use for agricultural pumps or vacant building	
<input checked="" type="checkbox"/>	Future work required to maintain existing idle facility	EC Notification #: _____
<input type="checkbox"/>	Modesto Irrigation District Service Area	
<b>Temporarily Out of Service (TOS) and Temporary Idle Facility (TIF):</b>		
<input type="checkbox"/>	Potential agricultural use :	<input type="checkbox"/> (TOS-AG) if de-energized or <input type="checkbox"/> (TIF-AG) if energized
<input type="checkbox"/>	Potential service to an existing (vacant) building:	<input type="checkbox"/> (TOS-V) if de-energized or <input type="checkbox"/> (TIF-V) if energized
<b>If facility is oil filled, check all field conditions that apply:</b>		
<input type="checkbox"/>	Surface or ground waters	<input type="checkbox"/> Grazing lands, agriculture areas or vegetable gardens
<input type="checkbox"/>	Sewers or sewage treatment systems	<input type="checkbox"/> Private or public water sources or distribution systems
<input type="checkbox"/>	Day-care centers or schools	
<input type="checkbox"/>	None of the above conditions apply	

**Figure 1. IF Notification – Future Work Required  
Field Condition and EC Notification Number**

## 2. Energized Electric Line Facility No Longer Used to Serve Customer Load

**General Guidance:** It may be necessary to de-energize the idle facility:

If primary lines are energized, de-energize line sections by opening cut-outs. In raptor concentration zones (RCZs) or if the primary tap line is unfused, create a Priority E, 3-month Electric Corrective (EC) Notification to de-energize the jumpers.

### NOTE

When idle transformers or sections of line de-energized by cut-outs are located in non-raptor areas, an EC Notification is **not** required to de-energize the jumpers.

**Do not** initiate an IF Notification or an EC Notification when attachments to poles (cross-arms, miscellaneous hardware, brackets, insulators, etc.) do not pose a safety or reliability risk to an idle facility. If it is not necessary to de-energize the idle facility, create a Priority "F" EC Notification.

Continue to document safety or reliability issues that meet criteria for vegetation notifications.

**Minor Work:** No

**EC Form:** Yes, to de-energize

- FDA: OH Facility Idle De-Energize
- Select the Priority "E"
- Select the 0-3 month Due Date

**Idle Facility Form:** Yes

**Related Documents:** TD-2459P-01

### 3. De-Energized Electric Line Facility Already Identified on a Pending EC Notification but Not Mapped

**General Guidance:** Create a map change request if the facility is not mapped as idle.

**Minor Work:** No

**Map Correction:** Yes

**Related Documents:** TD-2459P-01

## Insulators

### 1. Arcing or Tracking on Insulators

**General Guidance:** If there is evidence of arcing or tracking on a primary insulator, call the M&C supervisor, create Emergency tag, and follow emergency EC processes. Do not mix insulators and if replacing all insulators on a older wood arm replace the arm with a composite arm as well.

**Minor Work:** No

**EC Form:** Yes, create an Emergency EC Notification

**Related Documents:** Utility S2405

## 2. Damaged Insulators

**General Guidance:** Replace all LAPP insulators (1968-1976 potential LAPP insulators based on date nail, arms looks like original construction). If newer construction w/new crossarm, may not be LAPP insulators.

Replace ALL insulators if chipped, cracked, contaminated, broken, or damaged. If the crossarm is wood, replace all insulators AND crossarm w/composite crossarm.



If an insulator is damaged due to gunshot, replace with epoxy of polymer insulators.

**Minor Work:** No

**EC Form:** Yes

- FDA: Insulator Broken Replace
- Cannot mix insulator types. Always replace full set of insulators AND replace crossarm w/composite crossarm.
- Select the Priority and Due Date based upon Compelling Abnormal Conditions

**Related Documents:** 022088, TD-2305M-JA\_07 Crossarm Evaluation job aid

DAMAGED INSULATOR	INSULATOR LAYING ON ITS SIDE / PRIMARY ON THE ARM
	
<p><b>At this Location:</b> Damaged insulator with an insulator that I no longer approved. Replace all insulators and the arm</p>	<p><b>At this Location:</b> Insulator lying on its side. Primary on the arm.</p>
<p><b>Perform Minor Work:</b> No</p>	<p><b>Perform Minor Work:</b> No</p>
<p><b>Write Third-Party Notification:</b> No</p>	<p><b>Write Third-Party Notification:</b> No</p>
<p><b>Write EC Form:</b> Yes</p> <ul style="list-style-type: none"> <li>• FDA= Crossarm / Decayed/Rotten / Replace</li> <li>• FDA=Insulator / Broken/ Damage / Replace</li> <li>• Priority "E", 3-12 months depending upon exposure</li> </ul>	<p><b>Write EC Form:</b> Yes</p> <ul style="list-style-type: none"> <li>• FDA= Crossarm / Decayed/Rotten / Replace</li> <li>• Priority "A", follow Emergency Process</li> </ul>

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****FLASHED INSULATOR ON TRANSFORMER**

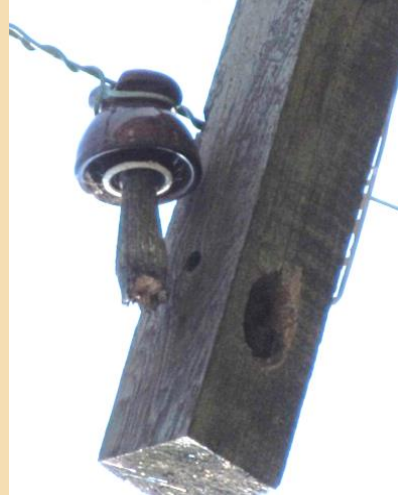
**At this Location:** Flashed image on transformer

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA= Transformer / Flashed / Replace
- Priority "E", 3-12 months depending upon exposure

**BROKEN WOOD PIN ON PRIMARY**

**At this Location:** Broken wood pin. Primary (High Voltage Sign). Conductor on arm. Replace all insulators and the crossarm with a composite arm.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA= Crossarm / Decayed/Rotten / Replace
- FDA=Insulator / Squatter-(Primary) / Replace
- Priority "A", follow Emergency Process, (Conductor contacting crossarm)

**FLASHED INSULATOR POTHEAD**

**At this Location:** Flashed pothead

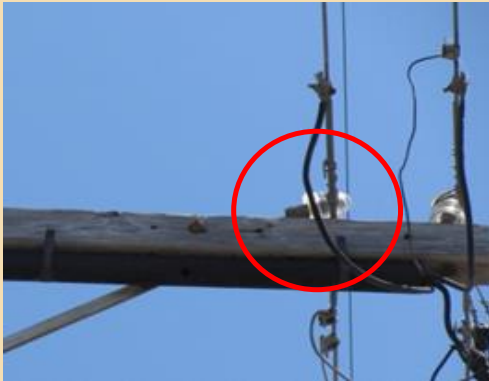
**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes or COE (pin or energized)

- FDA=Riser/Pothead / Flashed / Replace
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)



**BROKEN WOOD PIN ON SECONDARY**

**At this Location:** Broken secondary wood pin. Conductor lying on the arm, tangent pole. (excluding urban wildfire areas, use risk priority matrix). Wood pin arm at end of life replace arm with composite arm

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** Yes, if minor work not possible

- FDA= Crossarm / Decayed/Rotten / Replace
- FDA= Insulator / Squatter (Secondary) / Replace
- Priority "B", 0-3 months depending upon exposure

**BROKEN SECONDARY INSULATOR**

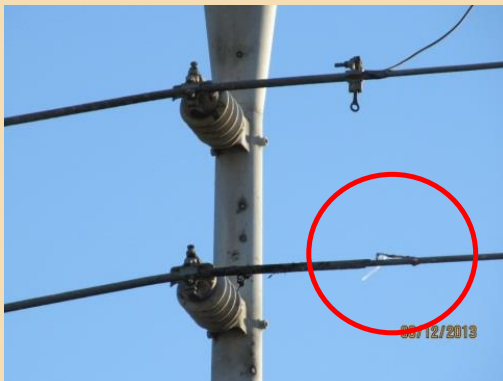
**At this Location:** Broken secondary insulator

**Perform Minor Work:** No, Can not mix and match insulators

**Write Third-Party Notification:** No

**Write EC Form:** Yes, if minor work not possible

- FDA= Crossarm / Decayed/Rotten / Replace
- FDA= Insulator / Broken/ Damage / Replace

**FLASHED INSULATOR MYLAR BALLOON**

**At this Location:** Flashed insulator by Mylar balloon

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA= Insulator / Flashed / Replace
- Priority "E", 3-12 months depending upon exposure

**ACCEPTABLE TEMPORARY REPAIRS****Deteriorated Crossarm****Close-up**

**At this Location:** Acceptable temporary repairs made by Troubleman. Crossarm deteriorated, temporary repair to stabilize secondary conductor. Pending EC Notification.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Crossarm / Broken/Damaged / Replace
- Priority "E", 3-12 months depending upon exposure



### 3. Squatters

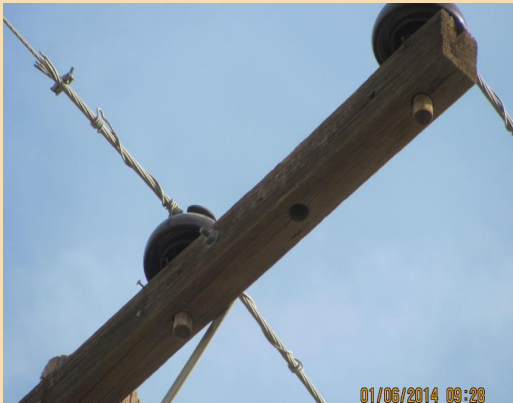
**General Guidance:** Create an EC Notification at a **maximum** Priority “E” for **all primary and secondary** squatters.

**Minor Work:** NO

**EC Form:** Yes

- FDA = Crossarm Decayed/Rotten / Replace
- FDA = Insulator / Primary Squatter / Replace
- Note: When replacing insulators, do NOT mismatch insulators. ALWAYS include crossarm replacement (replace with composite arm) on primary and secondary squatter EC notifications with wood crossarms.

**Related Documents:** 022088, Crossarm Evaluation TD-2305M-JA\_07

**PRIMARY SQUATTER**

**At this Location:** 2 Primary Wood Pin Squatters; replace wood crossarm with composite crossarm.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA = Crossarm Decayed/Rotten / Replace  
FDA = Insulator / Primary Squatter / Replace
- At minimum – must write up as Priority "E", based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, or E)

**SECONDARY SQUATTER AND DECAYED CROSSARM**

**At this Location:** Secondary Squatter and decayed crossarm.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA= Crossarm / Decayed/Rotten / Replace
- Priority "E", 3-12 months depending upon exposure
- Note: When replacing insulators, do NOT mismatch insulators.

**4. Flying Bells**

**General Guidance:** Record every location where flying bells are installed in HFTD areas on the Pronto form. Note the type of insulator (ceramic or non-ceramic).

**Minor Work:** No

**EC Form:** Yes if broken or damaged.

## Lightning Surge Arresters

### 1. Flashed/Blown

#### General Guidance:

Replace if the lightning arresters are already cut in the clear.

IF a damaged lightning/surge arrester is compelling, THEN create an EC Form

**Minor Work:** No

**EC Form:** Yes

- FDA: Lightning / Arrester Broken/Damaged / Replace or Lightning Arrester /Flashed / Replace
- Select the Priority and Due Date based the 'Probability & Impact Chart' and exposure risks

**Related Documents:** 031822

## Markings

### 1. High Voltage Sign Not Installed as Required

**General Guidance:** Inspectors are required to look for missing or broken high voltage signs during inspections. If inspectors find missing or broken signs, they should install new signs as minor work if they have the appropriate materials and equipment and can perform the work safely. If the inspector cannot install a sign as minor work, the inspector must create a Priority 'F' EC notification. Below is guidance on how to evaluate high voltage signage.

#### High Voltage Sign Requirements:

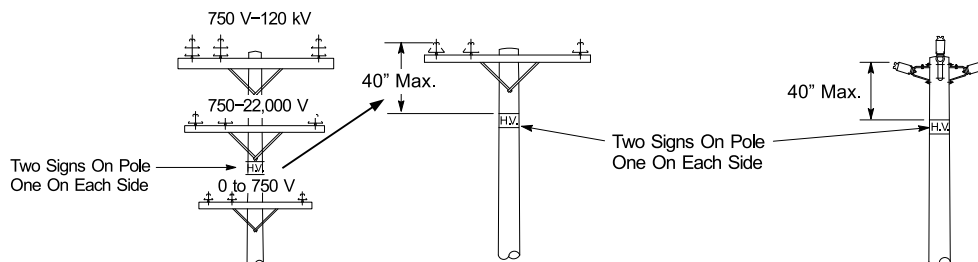
Poles that support line conductors or risers energized at **more than 750 volts** must be marked with high voltage signs. **IMPORTANT: If a pole is marked under any of the options below, it satisfies the high-voltage marking requirement** When installing new high voltage signs using one option, inspectors are not required to remove signs previously installed under different options.

#### Marking Options:

##### A. Sign the Pole Below the Lowest 750V+ Line Conductor (Preferred Method)

Marking requirements are satisfied under this option if:

1. There are two signs, attached to the surface of each side of the pole<sup>1</sup>.
2. The top of each sign is no more than 40" below the lowest level line conductor that exceeds 750V.



**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019**

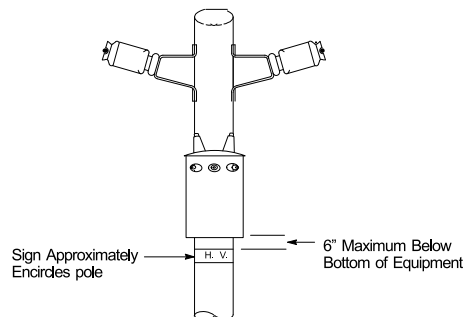
<sup>1</sup> **Exception:** If an inspector finds only one high-voltage sign within 40" below the lowest 750V or greater conductor, the inspector **is not required to install a second sign**. However, when performing work at the lowest crossarm level, a second sign must be installed.

**B. Sign the Pole Below Equipment**

Marking requirements are satisfied under this option **if:**

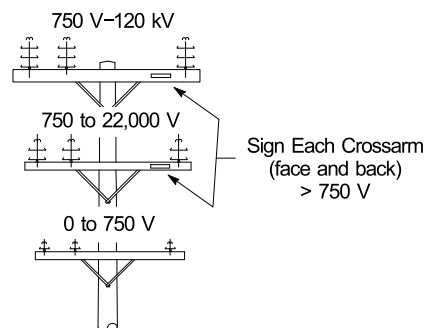
1. There are two signs attached to the surface of each side of the pole.
2. The top of each sign is no more than 6" below the equipment.
3. The signs are above all 0-750V supply and communication line conductors.

<sup>2</sup> **Exception:** If an inspector finds only one high-voltage sign installed within 6" below the equipment, the inspector **is not required to install a second sign**. However, when performing work at the equipment level, a second sign must be installed.

**C. Sign Each Crossarm**

Marking requirements are satisfied under this option **if:**

1. Each crossarm (line arm) supporting line conductors in excess of 750V are signed both front and back. Signs are not required on the inside faces of double arms.



The exceptions in Sections A and B do not apply when, in the judgment of the inspector, the two high voltage signs should be installed so that they may be visible from all sides of the pole. Typical examples are poles near water areas suitable for sailboats, near established boat ramps and associated rigging areas, adjacent to swimming pools, and in agricultural areas with moveable irrigation piping.

**Minor Work:** Yes

**Related Documents:** None

## 2. Operating Number Incorrect / Illegible/ Missing

### General Guidance:

IF the operating number on the field equipment does **not** match the operating number printed on inspection map;

THEN (1) **contact the local Distribution Operation (DO)** to confirm the discrepancy and to get further instructions

(2) DO confirms the field equipment number is **correct**; then complete a **map correction**

(3) DO confirms the field equipment number is **not correct**; then **perform minor work to correct the operating numbers** on the field equipment

(4) DO **cannot confirm the operating number**; then get a PIN from DO and complete a **map correction** to get an operating number assigned

(5) DO confirms the field equipment number for equipment in the field that **does NOT** have a field equipment number installed; then **complete minor work to install the equipment number OR create an EC** to have M&C install the field equipment number

**Note:** Alpha characters may differ between divisions. Be sure to confirm the "number" with the local DO and Compliance Supervisor.

Operating number should be installed in the operating position; if missing, they should be installed on the operating position, not at the 6' level. Consider also adding the # at the 6' level for ease of identification for field EE's.

1. If operating number exists, is it legible (faded, etc.); if not legible replace them as minor work or write an EC notification.
2. If operating number is not installed in the field, but on the inspection map - call the DO to confirm the correct number before installing.
3. If confirmed that the field is wrong, correct as minor work or write an EC to have corrected.
4. If confirmed that the operating number is mapped but not installed in the field, install the operating number as minor work.
5. If operating number is not installed in the field, but on the inspection map and/or in GIS - call the team lead who will contact the DO to confirm the correct number before installing.
6. If confirmed that the number is mapped but not installed in the field, or the field is incorrect, correct as minor work if possible, or write EC notification.

**Minor Work:** Yes

**Map Correction:** Yes, if operating number needs to be corrected

**EC Form:** Yes, if you cannot perform minor work

- FDA: Marking / Broken/Damaged / Replace or Marking / Missing / Install
- Select the Priority and Due Date based upon Compelling Abnormal Conditions

**Related Documents:** 057352

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****FADED OPERATING NUMBER**

**Before:** Faded operating number



**Close-up**



**After:** Minor work completed, operating number applied below operating position.

**At this Location:** Operating number is faded

**Perform Minor Work:** Yes

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Marking / Broken/Damaged / Replace
- At minimum – must write up as Priority "F-R", next inspection cycle; based on field condition and exposure, corrosion, etc.; prioritize as needed (A, B, E, or F)



### 3. Damaged or Missing Visibility Strips on Poles/Guy Markers

**General Guidance:** Reflective visibility strips shall be installed on wood, fiberglass, or steel poles, streetlight poles, and guy markers as follows:

- A. On poles and guy markers installed on state highways.
- B. On poles and guy markers located within 15 feet from the paved surface or 15 feet from the edge of the traveled, unpaved portion of city or county roads (streets) where not protected by curbs.
- C. On poles and guy markers within 6 feet of an adjacent driveway, private roadway (street), turnaround, parking lot, or thoroughfare in rural district, capable of being traversed by vehicles, where these are not protected by curbs.

**Notes:**

Visibility strips are not required on poles or guy markers behind a curb, approximately 5-1/2" x 5-1/2" and 90 degrees to the surface.

Visibility strips should not be installed if there is no reasonable expectation of traffic. For example: Cross country poles, poles through waterways or wetlands, rear easements poles, poles behind guardrails, or poles on embankments that are well above or below the road.

**Reminders:**

- Do not install visibility strips on top of the old one. Inspectors must remove the old strip first.
- If the old strip is in good condition, but became loose, re-secure the strip to the structure.
- Do not install metal visibility strips over any vertical molding/riser.
- If any visibility strip work is required, bring the location up to the current visibility strip standard (all must be the same color – yellow)
- Install visibility strips on the side facing oncoming traffic when known.
- Do not install visibility strips within 1-1/2" of U-shaped molding
- If unable to install at time of inspection due to lack of material return and complete minor work if still in the area and can do so and document minor work or write up EC notification to correct.

**Minor Work:** Yes

**Related Documents:** 022168, GO 95 Rule 56.9 (1964, 1990, 1996 Change to Guy Marker)

## Job Aid : Overhead Inspection

## ADHESIVE VISIBILITY STRIPS



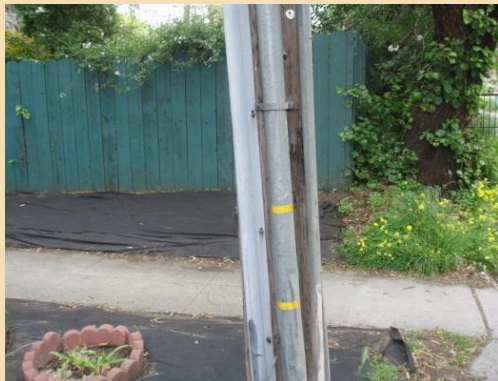
**At this Location:** Acceptable application of plastic and adhesive visibility strips

## CLEARANCE FROM GROUND



**At this Location:** Acceptable metal visibility strips attached 1 1/2" from ground.

## INADEQUATE VISIBILITY STRIPS



**At this Location:** Pole with vehicular exposure. Two small sections of yellow adhesive visibility strips.

**Perform Minor Work:**

Yes, apply 3 adhesive visibility strips on the pipe.

Yes, apply 3 adhesive visibility strips to the plastic molding.

**Write Third-Party Notification:** No

**Write EC Form:** No, perform minor work

## VISIBILITY STRIPS PAINTED OVER NO LONGER REFLECTIVE



**At this Location:** Visibility strips painted brown (3<sup>rd</sup> visibility strip located above not shown in picture)

**Perform Minor Work:** Yes, remove old visibility strips and install new.

**Write Third-Party Notification:** No

**Write EC Form:** No, perform minor work

**METAL OVER MOLDING****Before****After**

**At this Location:** Metal visibility strips under wood molding and over wood molding with protruding edge.

**Perform Minor Work:** Yes, remove old metal visibility strips and apply new visibility strips; visibility strips on after photo are fiber, not metal (coded item)

**Write Third-Party Notification:** No

**Write EC Form:** No, perform minor work

**OLD METHOD VISIBILITY STRIPS**

**At this Location:** Aged visibility strips have lost reflectivity.

**Perform Minor Work:** Yes, replace with 3 yellow visibility strips

**Write Third-Party Notification:** No

**Write EC Form:** No, perform minor work

**OLD AND NEW VISIBILITY STRIPS**

**At this Location:** Yellow visibility strips mounted over old white visibility strips.

**Perform Minor Work:** Yes, remove old visibility strips

**Write Third-Party Notification:** No

**Write EC Form:** No, perform minor work



## Oil-filled Equipment

### 1. Equipment Oil: Leaking/Weeping Stain

**General Guidance:** Refer to the EDPM Manual - Assessments and Notifications Section for additional information about addressing oil in the field.

IF you observe a [stain or leak](#)

THEN (1) Look for [exposure or contamination](#)

[Refer to the PCB Spill/Leak Category Response Matrix](#) in order to determine the appropriate action:

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.

PCB Spill/Leak Category Response Matrix  
Overhead & Sub-surface Equipment  
(Continued)

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
Insulating fluid is on the surface of the equipment and is not about to run off the surface and has <b>sheen</b> (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

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****PCB Spill/Leak Category Response Matrix, continued****PCB Spill/Leak Category Response Matrix  
Padmount Equipment**

Indicator	PCB Equipment Manufactured Before July 1979 2		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.

**Minor Work:** No**Related Documents:** TD-2320P-01 Attachment 4, TD-2305M-JA\_05 Corrosion Evaluation

## 2. Corrosion

**General Guidance:** In many parts of PGE's service territory, facilities are exposed to conditions that both cause and accelerate corrosion of metal components.

During detailed inspections, examine facilities and assess their condition. If corrosion is minor, repairs to the protective coatings that cover the metal surfaces on the equipment should be made. In addition, during the diagnostic testing for specific types of distribution line equipment, perform an examination for corrosion.

**Minor Work:** Yes

**EC Form:** Yes, if compelling

- Select the appropriate FDA
- Select the Priority and Due Date based the 'Probability & Impact Chart' and exposure risks

**Related Documents:** TD-2305M-JA\_05 "Corrosion Evaluation Job Aid", G12020

### IF you observe corrosion

THEN (1) Look for exposure

(2) Refer to the below table for to determine the corrosion rating and the required actions to perform. Visual examples follow:

Description	Symptoms	Required Actions
Integrity is breached	Hole(s) in metal (public exposure to high voltage, cover not securable, significant oil leak or spill, etc.)	EC notification Priority A – replace immediately or make safe and issue Priority B – replace/repair
Metal is damaged	Separation, layering, bubbling	EC notification Priority E – replace/repair Not to exceed 12 months
Moderate to heavy corrosion	No sign of metal degradation	Inspect at next interval Pad-mounted equipment – clean and paint
Little or no corrosion	Discolored paint, staining	No action required



## OH CORROSION EXAMPLES



**At this Location:** Corrosion Weakening Integrity of Tank

Metal is separating into layers

Corrosion will breach tank

---

**Perform Minor Work:** No

---

**Write Third-Party Notification:** No

**Write EC Form:**

- FDA=Transformer Leaks/Seeps/Weeps Replace
- Priority "E", 3-12 months depending upon exposure



**At this Location:** Transformer with moderate/heavy corrosion

Metal structure still sound (rust staining from attachments)

---

**Perform Minor Work:** No



---

**Write Third-Party Notification:** No

---

**Write EC Form:** No

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019**

TRANSFORMER WITH STAINING, NO CORROSION	TRANSFORMER CASE WITH LITTLE OR NO CORROSION
 <p><b>At this Location:</b> Transformer with dirt and salt spray staining, no metal damage</p> <hr/> <p><b>Perform Minor Work:</b> No</p> <hr/> <p><b>Write Third-Party Notification:</b> No</p> <hr/> <p><b>Write EC Form:</b> No</p>	 <p><b>At this Location:</b> Transformer with little to no corrosion, no metal damage</p> <hr/> <p><b>Perform Minor Work:</b> No</p> <hr/> <p><b>Write Third-Party Notification:</b> No</p> <hr/> <p><b>Write EC Form:</b> No</p>

## Poles

### 1. Solely-Owned Poles with Third-Party Attachments

**General Guidance:** Identify all solely owned pole with third-party attachments (based on how it is mapped). Write EC Notification for Pole / Overloaded / Test, for Estimating to confirm pole loading.

Put mapping symbols for poles here:

Determine if additional clearing is needed for access to pole; if so - write EC Notification.

**Minor Work:** Yes, create an EC Notification to clear vegetation unless it can be addressed as minor work

**Related Documents:** EDPM Pole Inspection, Utility S2325

### 2. Broken Poles

**General Guidance:** Observations in the field may include:

1. Broken
2. Split
3. Decayed / Rotten
4. Vandalized
5. Any pole deformity
6. Any condition that may impair conductor clearance
7. Cracked poles: assess for potential failure



An 'N' tag indicates previously identified damaged pole.

If pole has reduced circumference. Write EC notification for estimating to confirm pole loading.

**Minor Work:** No

**Related Documents:** EDPM Pole Inspection, Utility S2325

**POLE BROKEN AT THE  
COMMUNICATION LEVEL**

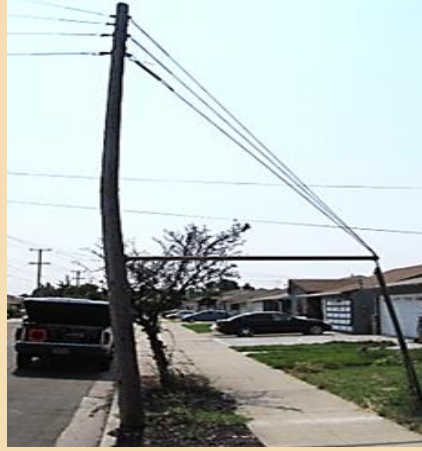
**At this Location:** Pole broken at the communication level in rural location. Complete Pole Inspection Test Report

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Broken/Damaged / Replace
- Priority "B", 0-3 months depending upon exposure

**POLE BROKEN AT MIDDLE SECTION**

**At this Location:** Broken pole. Complete Pole Inspection Test Report

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Broken/Damaged / Replace
- Priority "E", 3-12 months depending upon exposure

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****BROKEN POLE**

**At this Location:** Broken pole. Complete the Pole Inspection Test Report. Pole supported in four directions.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Broken/Damaged / Replace
- Priority "B", 0-3 months depending upon exposure

**POLE SPLIT AT COMMUNICATION LEVEL**

**At this Location:** Pole split at communication level. Complete the Pole Inspection Test Report.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Broken/Damaged/ Replace
- Priority "E", 3-12 months depending upon exposure

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****DAMAGE TO POLE FROM SPECIFIC EVENT****At this Location:** Pole burnt

If pole has reduced circumference. Write EC notification for estimating to confirm pole loading.

**Perform Minor Work:** No**Write Third-Party Notification:** No

**Write EC Form:** Yes, Write EC notification for estimating to confirm pole loading.

- FDA=Pole/Overloaded/Test
- Priority "E", 3-12 months depending on exposure.

**DECAY OF POLE OVER TIME**

**At this Location:** Pole top decayed. Entire pole failed pole test. Complete the Pole Inspection Test Report.

**Perform Minor Work:** No**Write Third-Party Notification:** No**Write EC Form:** Yes

- FDA=Pole Decayed/Rotten/Replace
- Priority "E", 3-12 months depending upon exposure



## SAW CUT INTO POLE



**At this Location:** Vandalized pole. Chain saw cut into lower portion of pole. Half of pole circumference cut into.

Notify supervisor of possible vandalism. Supervisor will have to communicate to damage claims. Complete Poles Inspection Test Report.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Broken/Damaged/ Replace
- Priority "A" or "B", 0-3 months depending upon exposure



**At this Location:** Vandalized pole. Chain saw cut into lower portion of pole. More than half of pole circumference cut into.

Notify supervisor of possible vandalism. Supervisor will have to communicate to damage claims. Complete Poles Inspection Test Report.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Broken/Damaged / Replace
- Priority "A" or "B", 0-3 months depending upon exposure

**POLE DAMAGED ON THE BOTTOM BUT OK**

**At this Location:** Pole damaged by vehicle. Splint installed as temporary repair. Inspection shows adequate circumference/strength. Sharp ragged splinters. Curb is adequate protection – visibility strips not required.

If pole has reduced circumference write EC notification for estimating to confirm pole loading. If damage requires replacement, write an EC notification to replace the pole.

---

**Perform Minor Work:** Yes, Remove sharp edges, remove splint.

---

**Write Third-Party Notification:** No

---

**Write EC Form:** Yes.

- FDA= Pole / Overloaded / Test

**If needs replaced:**

- FDA=Pole / Broken/Damaged / Replace

**DETERIORATION AROUND GROUND LINE****Before extraction****After extraction showing  
below ground deterioration**

**At this Location:** Deteriorated condition found during normal inspection. Complete Pole Inspection Test Report. If pole has reduced circumference. Write EC notification for estimating to confirm pole loading.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Decayed/Rotten / Replace
- Priority "A", follow Emergency Process

### 3. Leaning Pole

**General Guidance:** Consider the following when evaluating a leaning pole:

- Is the pole out of plumb by more than 10% of its height above the ground?
- Is the leaning pole causing excessive conductor sag or reduced clearance issues that could result in contact, fire risk, or public safety?
- Does the lean appear as if it will become worse or affect safety or reliability in the next 5 years (considering environmental and configuration factors -soil, wind, pole attachments, equipment, guying)?

If the answer is **yes** to any of these questions **write an EC Notification (Pole /Overloaded /Test) and fill out Pole Test Data Sheet**. All poles need to be load calculated prior to straightening. Estimating will create an EC to straighten (Pole/Lean/Adjust).

**Note:** If the Inspector suspects that a third party attachment is causing the pole to lean, consider writing a Third Party Utility notification in addition to an EC Form.

**Minor Work:** No

**Related Documents:** 023058

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****LEANING POLE**

**At this Location:** Leaning pole greater than 10% out of plumb. Pole is stable. No equipment in rural area. Causing reduced clearance.

---

**Perform Minor Work:** No

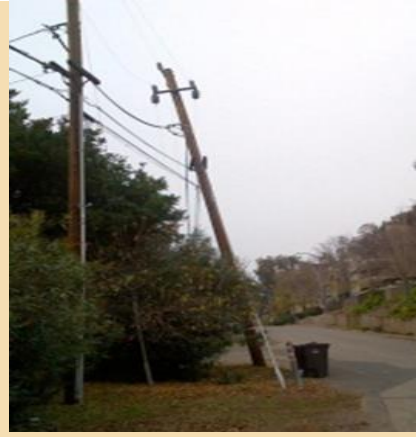
---

**Write Third-Party Notification:** No

---

**Write EC Form:** Yes

- FDA=Pole / Leaning / Replace
- Priority "E", 3-12 months depending upon exposure

**LEANING SLACK SPAN**

**At this Location:** Leaning pole more than 10% out of plumb. Pole test indicates that pole is solid below ground and can be straightened. Probability of equipment failure is moderate.

---

**Perform Minor Work:** No

---

**Write Third-Party Notification:** No

---

**Write EC Form:** Yes

- FDA=Pole / Leaning / Adjust
- Priority "E", 3-12 months depending upon exposure

**Job Aid : Overhead Inspection****TD-2305M-JA02, Rev. 6.0, April 6, 2019****STUBBED POLE LEANING TOWARDS SCHOOL**

**At this Location:** Stubbed pole leaning towards school, supported by down guy. Pole Bands are loose due to additional deterioration of the pole. Pole test data sheet indicates that pole no longer meets stubbing criteria causing reduced clearance issues

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Decay/Rotten / Replace
- Priority "E", 3-12 months depending upon exposure

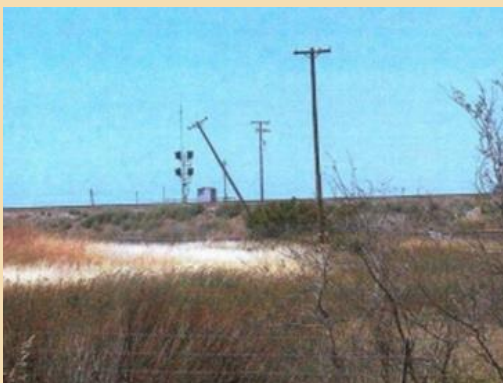
**POLE LEANING 3 POT TRANSFORMER IN BUCK POSITION**

**At this Location:** Pole is leaning less than 10% out of plumb, leaning in direction of offset equipment. Pole inspection found pole stable.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** No

**POLE LEANING NEAR RAILROAD TRACKS**

**At this Location:** Severe lean being held up by the primary conductors. Low clearance over active railroad tracks. Pole located in a swamp area with standing water.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Decayed/Rotten/ Replace
- Priority "A", follow Emergency Process



## 4. Deformed Pole

### General Guidance:

For deformed poles, write EC Notification for Pole / Overloaded / Test, for estimating to confirm pole loading.

If the deformity appears as if it will become worse or affect safety or reliability in the next 5 years (considering environmental and configuration factors -soil, wind, pole attachments, equipment, guying) - write EC notice to replace pole.

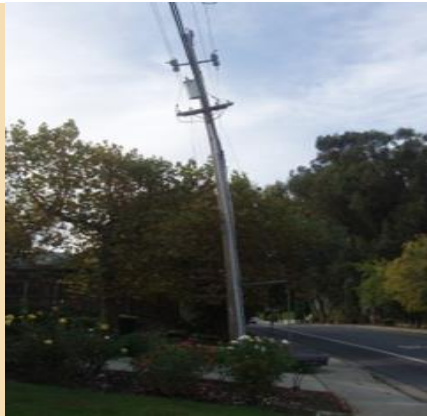
Common drivers for deformed poles: Improper/lack of guying, third party attachment

Review clearances to verify no reduced clearance issues, all levels of clearance requirements that could result in contact, fire risk, or public safety.

**Minor Work:** No

**Related Documents:** EDPM Pole Inspection

### POLE BENT 4 FEET OUT OF LINE



**At this Location:** Pole bent 4 feet out of line, less than 10% lean

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes, only when the inspector decides that further assessment is required.

- FDA=Pole / Overloaded / Test
- Priority "E", 3-12 months depending upon exposure

### INADEQUATE SUPPORT AT COMMUNICATIONS LEVEL



**At this Location:** Two guys stabilizing communication level.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes, only when the inspector decides that further assessment is required.

- FDA=Pole / Overloaded / Test
- Priority "E", 3-12 months depending upon exposure

**OVER STRESSED POLE**

**At this Location:** Pole is twisted, cracked, due to communication.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Overloaded / Replace Pole Test Data Sheet is Required
- Priority "E", 3-12 months depending upon exposure; add in field comments "overloaded by communications."

**UNBALANCED LOAD AT TOP**

**At this Location:** Deformed pole with bowed top in line with conductor with no visible breaks. No compelling condition.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** No

## 5. Soil Excessively Eroded or Washed Away at Base of Pole

**General Guidance:** If the inspector notices that a large amount of soil was washed or eroded away at the base of a pole, consider writing an EC Form to investigate whether the pole still meets its designed set depth.

**Minor Work:** No

**Related Documents:** 015203

## 6. Pole Steps

**General Guidance:** Remove any pole steps less than 8 feet 6 inches above the ground or any other accessible surface; this allows for grading, landscaping, etc.

**Minor Work:** Yes

**Related Documents:** 022616 p.2

## 7. Mud sill

**General Guidance:** Repair/replace deteriorated mud sill.

**Minor Work:** No

**Related Documents:** 030109

## 8. Transmission Poles

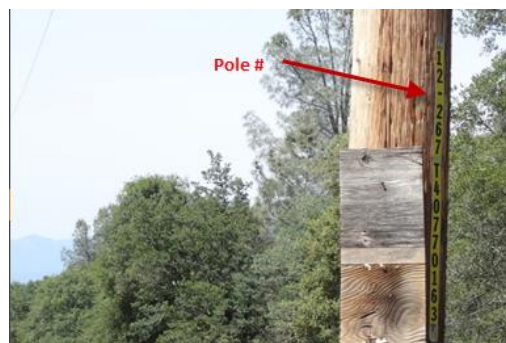
**General Guidance:** At minimum, when performing GO 165 patrols or inspections, Inspectors should perform a “patrol” of the transmission assets in the area being patrolled or inspected in order to identify any **obvious structural problems or hazards** that need to be addressed by the Transmission Organization. Review clearances to verify no reduced clearance issues, all levels of clearance requirements that could result in contact, fire risk, or public safety.

Examples of the types of issues that could be identified:

- Damaged or broken poles
- Broken or decayed crossarms
- Broken insulators
- Damaged tie wire
- Vegetation issues

**If you identify an obvious structural problem or hazard in the field that is NOT an emergency:**

- Assign a location # of your map
- \*Document the location # on your P&I Daily Log
- Take a photo of the pole # on the pole; example:



- Take a **minimum** of one photo to document the issue at the location
- Refer to the Transmission key contact map to identify the **T-Line contact** for that area
- Contact the appropriate **Transmission Supervisor** (leave a VM if not available)
- In the comments section of your log entry, note the following:
  - The issue identified (i.e. bad pole, broken crossarm, etc.)
  - The transmission pole #
  - The date, name and phone number of the T-Line employee that you contacted
  - The digital photo number(s) associated with the location

**When in doubt call your Supervisor or PG&E Lead**

**Minor Work:** No

## Riser Molding

### 1. Broken/Missing Riser Ground

#### General Guidance:

See 'Ground / Ground Molding' in this job Aid

**Minor Work:** None

**Related Documents:** 027742

### 2. U-Shape Riser Molding Broken/Damaged or Unsecured

#### General Guidance – Existing Molding:

Ensure bottom section of ground molding is flush against the pole

**IF** molding is NOT firmly attached to pole

**THEN** Perform Minor Work to secure molding to pole by attaching all lags **OR** Create EC Notification

Address any gaps identified via minor work or write an EC notification

#### General Guidance if Installing New Molding or Repairing Existing Molding:

Below 8 feet: Both sides of the molding must be secured to the pole at least every 18 inches

Above 8 feet: Both sides of the molding must be secured to the pole at least every 36 inches

**Minor Work:** Yes

**Related Documents:** 021924

## SmartMeter/SCADA Equipment

### 1. Broken/Damaged SmartMeter Relay/Access Point/Data Collector Unit or SCADA Equipment

**General Guidance:** If, through visual inspection, an inspector sees broken or damaged SmartMeter antenna, DCU, or SCADA equipment, create an EC Form. Be sure to check the SmartMeter box on the EC Form. If visible, note the operating number and/or serial number of the equipment.

Supervisors will contact SmartMeter Operations to notify them of the issue.

**Minor Work:** No

**Related Documents:** 072145, 072150, 068190, SMRT-9000WBT, 054422

#### EXAMPLES OF SMARTMETER ON POLE



## Streetlights

### 1. Broken or Damaged Streetlight Pole

**General Guidance:** Test for out of plumb, then write an EC Form.

**Minor Work:** No

**Related Documents:** Utility S2309

#### MISSING STREET LIGHT



**At this Location:** Cone indicates location of missing decorative street light and pole. Exposed wire is de-energized. Include picture of similar street light for replacement.

**Perform Minor Work:** Yes, make safe.

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Streetlight / Missing / Install
- Priority "B", 30 days for regular streetlights, add in field comment section if pole is missing.
- Priority "E", 6 months for decorative streetlights, add in field comment section – describe if pole is missing.

#### LEANING AGGREGATE POLE



**At this Location:** Leaning aggregate pole more than 10% out of plumb. Pole is broken at base and not stable. Light still working.

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Pole / Broken/Damaged / Replace
- Priority "B", 0-3 months depending upon exposure



## 2. Day Burner

**General Guidance:** Do not create an EC Notification for a day burner. Call a clerk to contact Restoration Dispatch to get a T-Man to respond. This is to ensure correct accounting for streetlight work (depending on the rate that the customer is one, etc.).

**Minor Work:** Yes; if you have the materials on your truck

**Related Documents:** Utility S2309

## 3. Missing Streetlight

**General Guidance:** If the inspector notices that a missing streetlight, first, make safe then write an EC Form to install a missing streetlight.

**Minor Work:** No

**Related Documents:** Utility S2309

## Trees

### 1. Trees within 4 Feet of a Primary Line

**General Guidance:** If you have any questions about the integrity of tree that could impact electric facilities, (causing damage to our facilities, dead or dying, causing conductor height issue, could fall into line etc.), write a Vegetation Notification to remove dead/dying tree.

Record all tree connects – primary, equipment, secondary, service, or guying - in the record keeping section of the pronto form.

**Broken Limb on Conductor:** Remove the limb as minor work with a hot stick if it is safe to do so.

**Vegetation Touching Bare Conductor or Signs of Burning or Arcing:** Create an emergency Priority “A” Vegetation Management Tag and call vegetation management for assistance. Wait at the location until relieved by Vegetation Management personnel.

**Vegetation Not Touching Bare Conductor and No Signs of Burning or Arcing:** Create a priority Vegetation Management tag.

**Minor Work:** Yes

**Related Documents:** None

## 2. Tree Attachments

**General Guidance:** If you have any questions about the integrity of the tree, (causing damage to our facilities, dead or dying, causing conductor height issue, etc.), write an EC Notification to install a clearance pole.

Record all tree connects – primary, equipment, secondary, service, or guying - in the record keeping section of the pronto form

**Minor Work:** No

**Related Documents:** None

## 3. Trees Causing Strain or Abrasion to a Secondary Conductor or Service

**General Guidance:**

**If vegetation is:**

A. Causing damage to the conductor insulation due to friction (Note: scuffing and polishing is NOT damaged) or

B. Causing strain on the conductor that is adversely affecting other supply facilities.

**Note:** The inspector should clear the vegetation or move the conductor as minor work if possible. Inspectors should leave the trimmings at the location; use door hanger to notify customer.

**If the inspector cannot clear the vegetation or move the conductor:**

- For service drops: Create an EC notification
- For secondary conductor spans serving 2 or more customers: Write a Vegetation Management notification with priority based on severity.

**Note:** Vegetation Management considers secondary as conductor that feeds more than one physical address (per Rule 16); i.e. multiple “service” conductors feeding the **same customer/property are considered service**, not secondary; Inspector will need to **write an EC** in this scenario

If the inspector sees a hazardous vegetation issue on communication facilities, create a third-party notification.

**Minor Work:** Yes

**Related Documents:** None

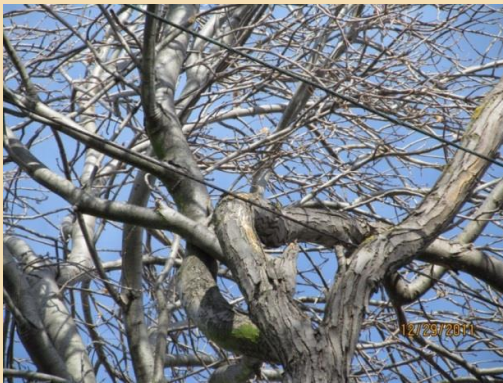
**PHONE TREE CONDITION**

**At this Location:** Tree putting strain on the pole, due to communication line

**Perform Minor Work:** No

**Write Third-Party Notification:** Yes

**Write EC Form:** No

**SECONDARY HARD AGAINST TREE****SECONDARY OVERGROWN REDUCING CONDUCTOR CLEARANCES**

**At this Location:** Secondary conductor resting on tree/vegetation

**Perform Minor Work:** No

**Write Third-Party Notification:** No

**Write EC Form:** Yes

- FDA=Tree / Overgrown / Trim
- FDA= Conductor / Clearance / Adjust
- Priority "E", 3-12 months depending upon exposure

## Wildlife Protection

### 1. Existing Migratory Bird Protection Damaged

**General Guidance:** Evaluate locations where animal mitigation has previously been installed to assess if it is sufficient, or is missing or broken. If not sufficient or needs repair, create EC notification to replace.

Note: If there is a nest at the location, write EC Notification to install animal mitigation if nest is already abandoned.

**Minor Work:** No

**Related Documents:** Utility S2321, 061149

### 2. Existing Wildlife Protection Damaged

**General Guidance:** Inspector should write an EC Form to repair/replace existing wildlife protection installed in the field (cow guards, etc.)

Identify any missing animal guards on all overhead transformers in the record-keeping section of the Pronto Form.

Document locations that do not have bushing covers and insulated jumpers in the record-keeping section of the Pronto form.

Note where there are signs of animal activity/nesting/debris. Write EC Notification to install animal mitigation if nest is already abandoned.

**Minor Work:** No

**Related Documents:** 061149

## Clearance Evaluation Job Aid



### Overhead Clearance Evaluation

TD-2305M-JA12

Publication Date: 3/2013 Rev: 1

#### Guidance Document References:

TD-2305M – EDPM 2011 Manual

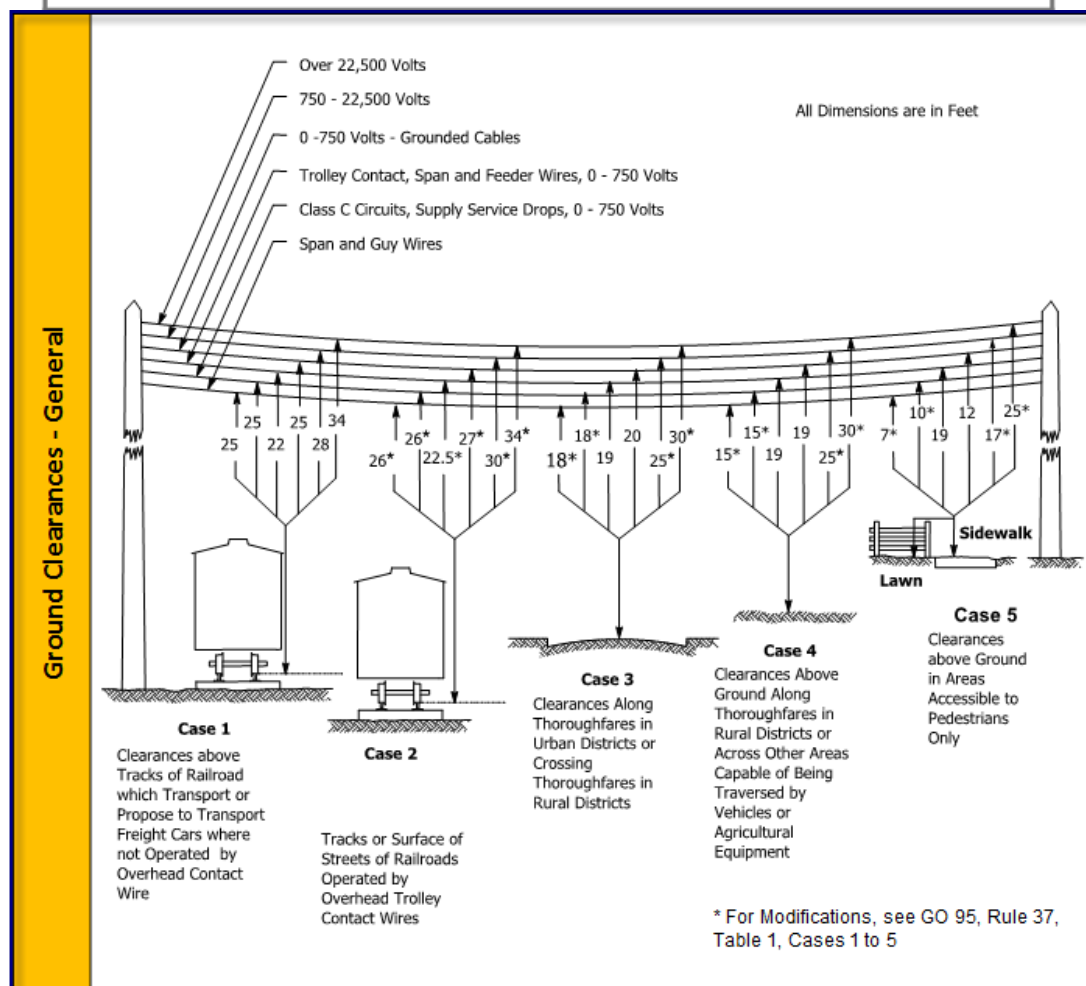
Engineering Document 022158 – Clearance Tables CPUC  
General Order 95

#### Level of Use:

- ☐ Information  
☒ Reference  
☐ Continuous

#### General Information

This job aid contains reference material to help compliance inspectors evaluate conductor clearance issues they visually identify in the field.



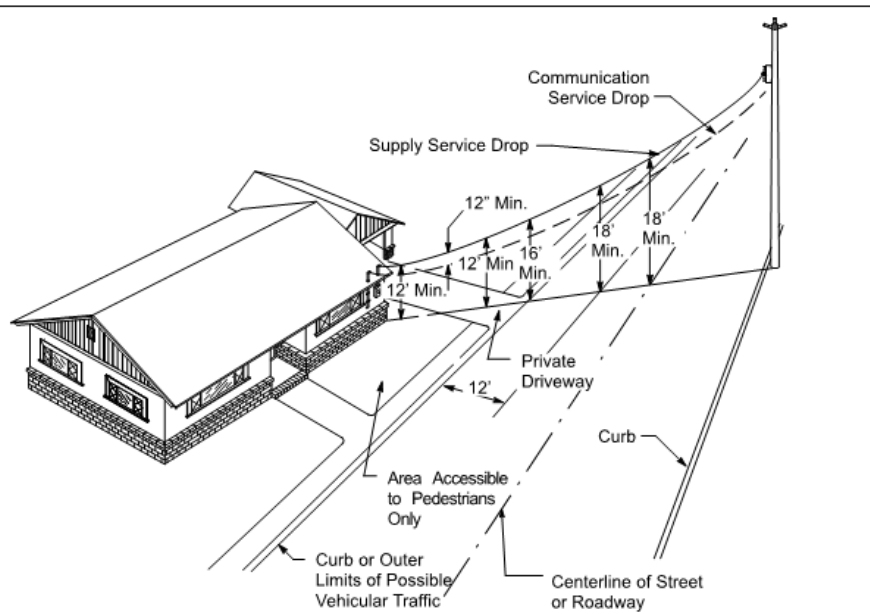


## Overhead Conductor Clearances

TD-2305M-JA12

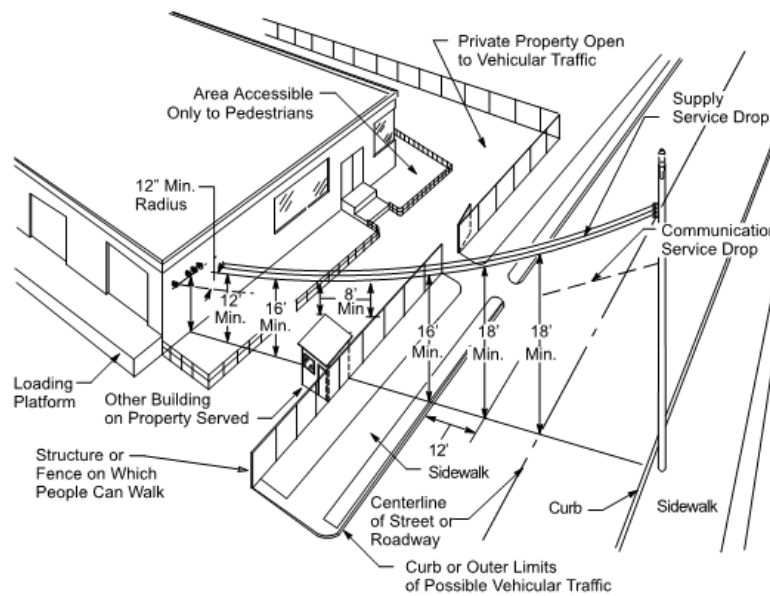
Publication Date: 3/2013 Rev: 1

0-750V Service Drops - Residential



Overhead Clearance Requirements Job Aid

0-750V Service Drops - Industrial &amp; Commercial



Page 2, Clearance Job Aid



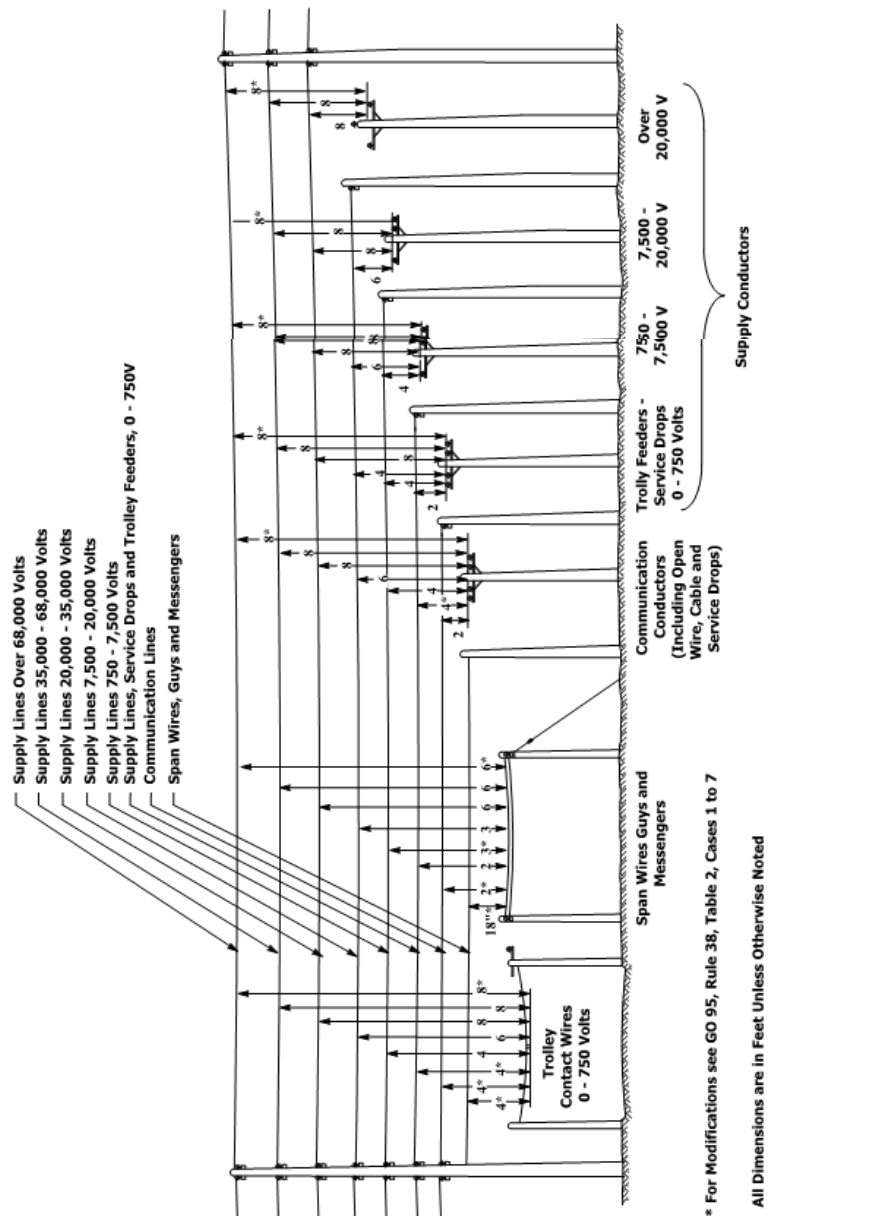


## Overhead Conductor Clearances

TD-2305M-JA12

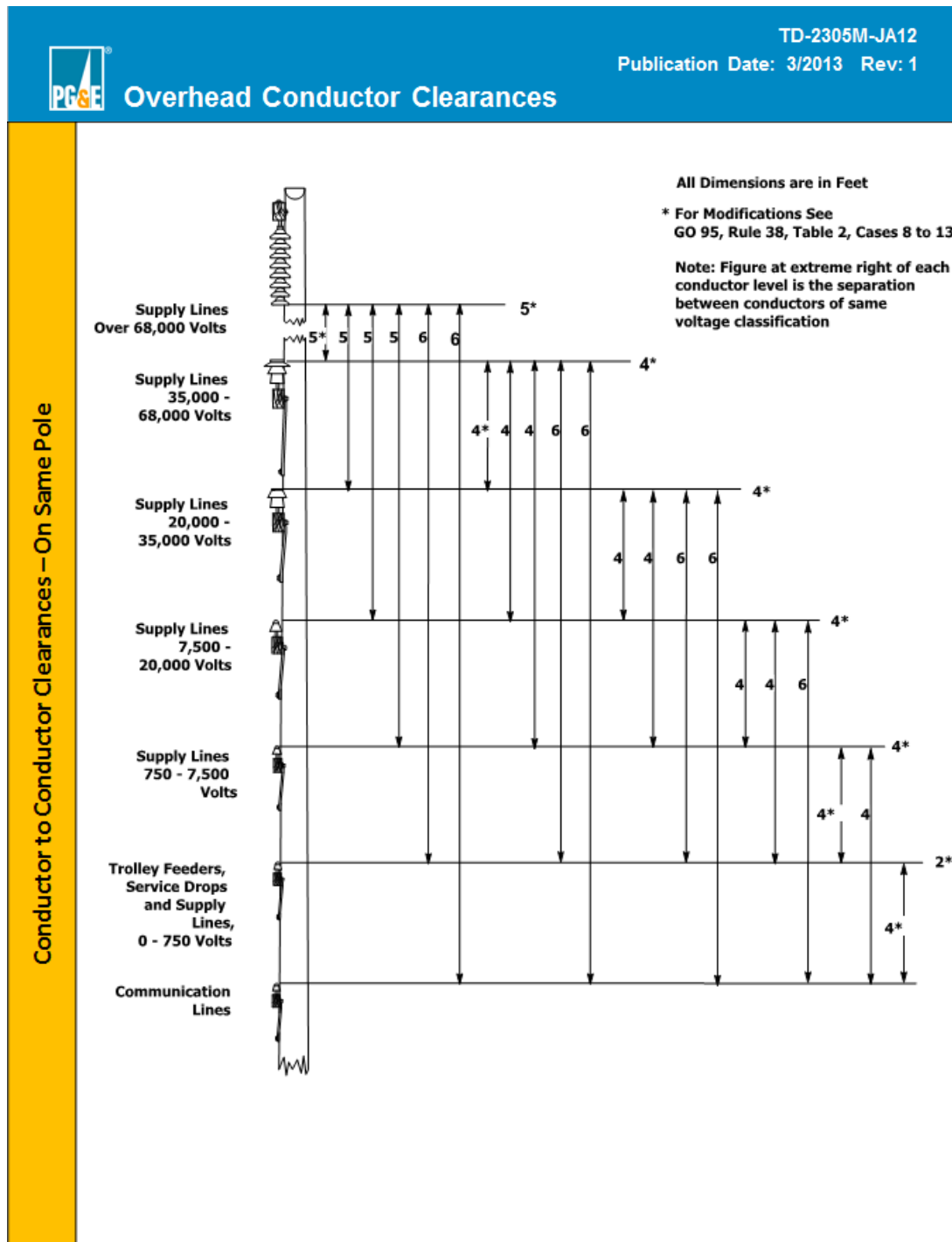
Publication Date: 3/2013 Rev: 1

### Conductor to Conductor Clearances - Crossings



Overhead Clearance Requirements Job Aid

Page 3, Clearance Job Aid



Page 4, Clearance Job Aid

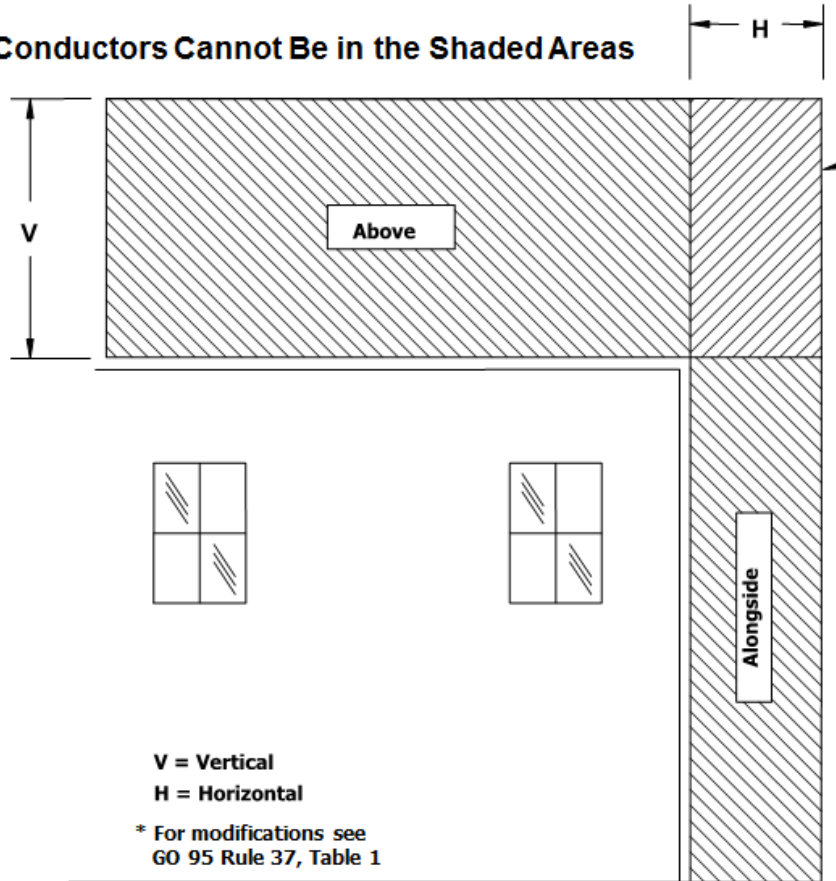


## Overhead Conductor Clearances

TD-2305M-JA12

Publication Date: 3/2013 Rev: 1

Conductor to Building Clearances

**Conductors Cannot Be in the Shaded Areas**

	Conductor Type					
	Guys	Service Drops (not Attached)	0-750 V Spans	750V-22.5kV	22.5 – 300kV	300-550kV
<b>V</b> (Walkable Surface)	8 ft. *	8 ft. *	8 ft.	12 ft.	12 ft.	20 ft. *
<b>V</b> (Non-Walkable Surfaces: Handrails, Chimneys, Patio Covers, etc.)	2 ft.	8 ft. *	8 ft. *	8 ft.	8 ft.	20 ft.
<b>H</b>		3 ft. *	3 ft. *	6 ft.	6 ft. *	15 ft. *

Page 5, Clearance Job Aid

		Wire or Conductor Concerned							TD-2305M-JA12 Publication Date: 3/2013 Rev: 1	
		A	B	C	D	E	F	G	Overhead Conductor Clearances	
Case	Nature of Clearance	Span Wires (Other than Trolley Span Wires) Overhead Guys and Messengers	Communication Conductors (Including Open Wire, Cables and Service Drops) Supply Drops of 0 - 750 Volts	Trolley Contact, Feeder and Span Wires, 0 - 5,000 Volts	Supply Conductors of 0 - 750 Volts and Supply Cables Treated as in Rule 57.8	Supply Conductors and Supply Cables, 750 - 22,500 Volts	Supply Conductors and Supply Cables, 22.5 - 300 kV	Supply Conductors and Supply Cables, 300 - 550 kV		
1	Crossing above tracks of railroads which transport or propose to transport freight cars (maximum height 15 feet, 6 inches) where not operated by overhead contact wires. (a) (b) (c) (d)	25 Feet	25 Feet	22.5 Feet	25 Feet	20 Feet	34 Feet	34 Feet (kk)		
2	Crossing or paralleling above tracks of railroads operated by overhead trolleys. (b) (c) (d)	26 Feet (e)	26 Feet (e) (f) (g)	22.5 Feet (h) (i) (see)	20 Feet (i)	25 Feet (o) (p)	30 Feet (o) (i)	30 Feet (o) (i) (kk)		
3	Crossing or along thoroughfares in urban districts or crossing thoroughfares in rural districts. (c) (d)	18 Feet (j) (k) (l)	18 Feet (j) (l) (m) (n) (aa)	10 Feet (hh) (see)	20 Feet (i)	25 Feet (o) (p)	30 Feet (o) (i)	30 Feet (o) (i) (kk)		
4	Above ground along thoroughfares in rural districts or across other areas capable of being traversed by vehicles or agricultural equipment.	15 Feet (k)	15 Feet (m) (n) (p)	19 Feet (eee)	19 Feet	25 Feet (o)	30 Feet (o) (p)	30 Feet (o) (kk)		
5	Above ground in areas accessible to pedestrians only	8 Feet	10 Feet (m) (q)	19 Feet (eee)	12 Feet	17 Feet	25 Feet (o)	25 Feet (o) (kk)		
6	Vertical clearance above walkable surfaces on buildings (except generating plants or substations) bridges or other structures which do not ordinarily support conductors, whether attached or unattached.	8 Feet (r)	8 Feet (r)	8 Feet	8 Feet	12 Feet	12 Feet	20 Feet (ll)		
6a	Vertical clearance above non-walkable surfaces on buildings (except generating plants or substations) bridges or other structures, which do not ordinarily support conductors, whether attached or unattached	2 Feet	8 Feet (yy)	8 Feet	8 Feet (zz)	8 Feet	8 Feet	20 Feet		
7	Horizontal clearance of conductor at rest from buildings (except generating plants and substations), bridges or other structures (upon which men may work) where such conductor is not attached thereto (s) (t)	-	3 Feet (u)	3 Feet	3 Feet (v) (v)	6 Feet (v)	6 Feet (v)	15 Feet (v)		

Page 6, Clearance Job Aid

G.O. 95 Table 1 – Vertical Clearances (cont'd)									
Wire or Conductor Concerned									
Case	Nature of Clearance	A	B	C	D	E	F	G	
		Span Wires (Other than Trolley Span Wires) Overhead Guys and Messengers	Communication Conductors (Including Open Wire, Cables and Service Drops), Supply Service Drops or 0 - 750 Volts	Trolley Contact, Feeder and Span Wires, 0 - 5,000 Volts	Supply Conductors of 0 - 750 Volts and Supply Cables Treated as in Rule 57.8	Supply Conductors and Supply Cables, 750 - 22,500 Volts	Supply Conductors and Supply Cables, 22.5 - 300 kV	Supply Conductors and Supply Cables, 300 - 550 kV	
8	Distance of conductor from center line of pole, whether attached or unattached (w)(x)(y)	-	15 inches (s)(aa)	15 inches (aa)(bb)(cc)	15 inches (d)(aa)(dd)	15 or 18 inches (d)(dd)(ee)(ff)	18 inches (dd)(ee)	Not Applicable	
9	Distance of conductor from center line of pole, whether attached or unattached (w)(x)(y)	-	3 inches (aa)(ff)	3 inches (aa)(cc)(g)	3 inches (aa)(dd)(gg)	3 inches (dd)(gg)(jj)	1/4 Pin Spacing Shown in Table 2 Case 15 (dd)	1/2 Pin Spacing Shown in Table 2 Case 15 (dd)	
10	Radial centerline clearance of conductor or cable (unattached) from non-climbable street lighting or traffic signal poles or standards, including manholes, brackets and lighting fixtures, and from antennas that are not part of the overhead line system.	-	Foot (u)(m)(es)	15 inches (bb)(cc)	3 Feet (oo)	6 Feet (pp)	10 Feet (qq)	10 Feet (t)	
11	Water areas not suitable for sailboating (tt)(uu)(vv)(ww)(xx)	15 Feet	15 Feet	-	15 Feet	17 Feet	25 Feet	25 Feet (kk)	
12	Water areas suitable for sailboating, surface area of (tt)(vv)(ww)(xx)								
	(A) Less than 20 acres	18 Feet	18 Feet	-	18 Feet	20 Feet	27 Feet	27 Feet (kk)	
	(B) 20 to 200 acres	26 Feet	26 Feet	-	26 Feet	28 Feet	35 Feet	35 Feet (kk)	
	(C) Over 200 to 2,000 acres	32 Feet	32 Feet	-	32 Feet	34 Feet	41 Feet	41 Feet (kk)	
	(D) Over 2,000 acres	38 Feet	38 Feet	-	38 Feet	40 Feet	47 Feet	47 Feet (kk)	
13	Radial clearance of bare line conductors from tree branches or foliage (aaa)(ddd)	-	-	18 inches (bbb)	-	18 inches (bbb)	1/4 pin spacing shown in table 2, Case 15 (bbb)(ccc)	1/2 pin spacing shown in table 2, Case 15	

Note: A letter next to a measurement indicates there may be an exception. Refer to G.O. 95 to research.

TD-2305M-JA12

Publication Date: 3/2013 Rev: 1

# Overhead Conductor Clearances

## G.O. 95 Table 2 – Conductor to Conductor Clearances

Case No.	Nature of Clearance and Class and Voltage of Wire, Cable or Conductor Concerned	Other Wire, Cable or Conductor Concerned Supply Conductors (Including Supply Cables)										
		A	B	C	D	E	F	G	H	I	J	K (kk)
		Span Wires, Guys and Messengers	Trolley Contact Conductors 0-750 Volts	Comm. Conductors (Including Open Wire, Cables and Service Drops)	0-750 Volts (Including Service Drops) and Trolley Feeders (a)	750 - 7,500 Volts	7,500 - 20,000 Volts	20,000 - 35,000 Volts	35,000 - 75,000 Volts	75,000 - 150,000 Volts	150,000 - 300,000 Volts	300,000 - 500,000 Volts
	Clearance between wires, cables and conductors not supported on the same poles, vertically at crossings in spans and radially where collinear or approaching crossings											
1	Span wires, guys and messengers (b)	18 (c)	48 (d, e)	24 (e)	24 (e)	36 (f)	36	72	72	78	78 (gg)	133 (hh)
2	Trolley contact conductors, 0 - 750 volts	48 (d, e)	-	48 (d)	48 (d, h)	48	72	96	96	96	96 (gg)	152 (hh)
3	Communication conductors	24 (e)	48 (d)	24	48 (i)	48 (dd)	72	96	96	96	96 (gg)	156 (hh)
4	Supply conductors, service drops and trolley feeders, 0 - 750 volts (qq)	24 (e)	48 (d, h)	48 (i)	24	48	48	96 (oo)	96	96	96 (gg)	156 (hh)
5	Supply conductors, 750 - 7,500 volts (qq)	36 (f)	48	48 (dd)	48	48 (h)	72	96 (oo)	96	96	96 (gg)	152 (hh)
6	Supply conductors, 7,500 - 20,000 volts (qq)	36	72	72	48	72	72	96 (oo)	96	96	96 (gg)	156 (hh)
7	Supply conductors, more than 20,000 volts (qq)	72 (g)	96 (g)	96 (g)	96 (g, oo)	96 (g, oo)	96 (g, oo)	96 (g, oo)	96 (g)	96	96 (gg)	156 (hh)
	Vertical separation between conductors and/or cables, on separate crossarms or other supports at different levels (excepting on related line and buck arms) on the same pole and in adjoining midspans											
8	Communication Conductors and Service Drops	-	-	12 (j, rr)	48 (k, l, m, n, pp)	48 (k)	72 (m, n)	72 (m)	72	78	87 (gg)	147 (hh)
9	Supply Conductors Service Drops and Trolley Feeders, 0 - 750 Volts	-	-	48 (k, l, m, n, pp)	24 (h, k, m, o)	48 (k, m, p)	48 (k, m, p)	72 (m, nn)	72	78	87 (gg)	147 (hh)
10	Supply conductors, 750 - 7,500 volts	-	-	48 (k)	48 (k, m, p)	48 (m, o, r, ee)	48 (m, q)	48 (m, q)	48 (q)	60 (ff)	90 (gg)	150 (hh)

Note: A letter next to a measurement indicates there may be an exception. Refer to G.O. 95 to research.

Note: A letter next to a measurement indicates there may be an exception. Refer to G.O. 95 to research.



PC&E

Overhead Conductor Clearances

TD-2305M-JA12  
Publication Date: 3/2013 Rev: 1

G.O. 95 Table 2 – Conductor to Conductor Clearances (Cont'd)

Case No.	Nature of Clearance and Class and Voltage of Wire, Cable or Conductor Concerned	Other Wire, Cable or Conductor Concerned										
		A	B	C	D	E	F	G	H	I	J	K (kV)
		Span Wires, Guys and Messengers	Trolley Contact Conductors 0 – 750 Volts	Comm. Conductors (Including Open Wire, Cables and Service Drops)	0 – 750 Volts (Including Service Drops) and Trolley Feeders (a)	750 – 7,500 Volts	7,500 – 20,000 Volts	20,000 – 35,000 Volts	35,000 – 75,000 Volts	75,000 – 150,000 Volts	150,000 – 300,000 Volts	300,000 – 550,000 Volts
Vertical clearance between conductors on related line arms and buck arms												
14	Line arms above or below related buck arms (s, t)	-	-	6	12 (u)	18 (u)	18 (u)	24	48	60 (ff)	90 (gg)	150 (hh)
Horizontal separation of conductors on same crossarm												
15	Pin spacing of longitudinal conductors vertical conductors and service drops (v, w)	-	-	3 (x)	11½ (h, x)	11½ (x)	17½ (x)	24 (x)	48	60 (ff)	90 (gg)	150 (hh)
Radial separation of conductors on same crossarm, pole or structure—incidental pole wiring												
16	Conductors, taps or lead wires of different circuits (v, y, z)	-	-	3 (x)	11½ (h, x)	11½ (x)	17½ (x)	24 (x)	48	60 (ff)	90 (gg)	150 (hh)
16a	Uncovered, grounded, non-dielectric fiber optic cables on metallic structures, in transition (ss)	-	15	15	15	18	18	18	18	24	36	120
17	Conductors, taps or lead wires of the same circuit (v, s, aa)	-	-	3	3	6	6	12	24	60 (ff)	90 (gg)	150 (hh)
Radial separation between guys and conductors												
18	Guys passing conductors supported on other poles, or guys approximately parallel to conductors supported on the same poles	-	-	3	11½	11½	17½	24	36	36 (ff)	78 (gg)	138 (hh)

Note: A letter next to a measurement indicates there may be an exception. Refer to G.O. 95 for research.

## Crossarm Evaluation Job Aid

### GENERAL INFORMATION:

Environmental conditions throughout the service territory expose support structures to a variety of conditions that can cause or accelerate deterioration of wood components. This section provides guidelines for assessing wood cross arms. Engineering requirements are identified in the Electric Wood Crossarm Assessment Utility guideline TD-2301P-01-JA01.

### Procedure:

During detailed inspections, examine wood cross arms and assess their condition for all compelling abnormal conditions, the crossarm will be replaced with a composite crossarm and associated hardware.

Compelling Abnormal Condition is any condition that needs to be addressed in the next 5 years.

Identify conditions such as crossarm configuration, number of phases, location (eg, urban, rural, forest, inaccessible, traffic, etc.), loading (eg, double/triple arms, dead ends, alley arms, proximity to trees, angles/conductor size, heavy loading, damaged wood pins, etc) and the likelihood of these conditions contributing to further deterioration or failure of the crossarm or attached components.







Often cross arms experience significant decay on the top of the arm without exhibiting clues that are visible from the ground<sup>1</sup>. For this reason, arms that exhibit two or more of the following characteristics are more likely to decay on the top and should be considered for a more detailed aerial/climbing inspection:

- Arms that appear to be greater than 50 years old<sup>2</sup>(based on age of pole, presence of wood pins, brown/glass insulators, or other indicators).
- Arms mounted on poles where the pole top is showing signs of decay or crowning.
- Severely weathered arms or arms rounded or apparently decayed ends.
- Damaged wood pins or elongated pinholes.
- Active moss/vegetation growth.
- Presence of woodpecker holes (greater than one inch diameter) on the arm
- Arms in areas of higher rainfall/moisture and reduced sunlight such as those in many coast and mountain areas.
- Wood pins on arms located in agricultural areas or orchards contaminated by aerial spraying and dirt, which contributes to tracking and arm or pin deterioration.

<sup>1</sup> Examples of top and bottom views of crossarm conditions are shown in table 2

<sup>2</sup> Many, but not all, arms prior to 1955 were untreated.

Crossarm Evaluation Job Aid

Table 2 – Crossarm Grading Aid	
BOTTOM VIEW	TOP VIEW
<p>Evidence of decay near hole</p> 	<p>Evidence of Significant Decay</p> 
<p>Enlarged hole, minor moss/discoloration/splits near pin hole</p> 	<p>Enlarged hole, minor moss/discoloration/splits near pin hole</p> 
<p>Evidence of tracking/burning near brace and pin holes</p> 	<p>Evidence of burning near brace and pin holes</p> 



## Crossarm Evaluation

TD-2305M-JA\_07

Publication Date: 01/01/2011, Rev: 1

### Corrosion Examples

Arm completely  
broken/fractured



Priority A (make safe immediately)

Primary squatter  
(wood pin).  
Split within 2" of  
pinhole .



Priority B (Replace 0-3 months)

Crossarm Evaluation Job Aid





## Crossarm Evaluation

TD-2305M-JA\_07

Publication Date: 01/01/2011, Rev: 1

### Corrosion Examples

Secondary arm broken. Split/fractured within 2" of bolt holes in heavy tree area.



Priority E (Replace 0-12 months).

Evidence of pole top and face of crossarm decay indicate need for more detailed inspection to better assess extent of arm top decay and condition and to determine if the remaining wood is sufficient to support the brace



Priority E (Replace 0-12 months).

Significant Deterioration. Both arms are broken/split. Temporary repair needs to be made permanent.



Priority E (Replace 0-12 months).

Crossarm Evaluation Job Aid