SUMMARY

This bulletin illustrates the service requirements for the specifically designed steel streetlight pole that is to be used when communication antenna attachments are needed. This bulletin also includes installation information and the required foundation for this pole.

Level of Use: Informational Use

AFFECTED DOCUMENT

027911, Installation Details for Service to Pole-Mounted Communication Equipment

TARGET AUDIENCE

Utility employees, electric construction employees, electric restoration employees, customer service representatives, service planning employees, electric estimators

WHAT YOU NEED TO KNOW

General Information

1. The street light pole is designed to support two communication radios, the antenna and a disconnect switch. See pole details in Figure 1 PG&E Steel Street Light Pole with Attachments on page 3.

2. Install a 2-wire (1-hot, 1-neutral) 1-phase 120 volt service (#6 Cu, 600 V insulated) or a 2-wire (1-hot, 1-neutral) 1-phase 240 volt service along with a #6 bare Cu ground wire to the street light pole with the SmartPole meter.

3. CAUTION: Do not install a 3-wire 1-phase 120/240 volt service as this is the incorrect wiring and voltage for the SmartPole metering application.

4. The metering provision contained herein is an exception to the Greenbook requirement and is designed primarily for CATV power supplies and other telecom equipment requiring metering (reference Tariff Application Guide – Electric Rule 9).

5. Power supplies or any communication equipment which has/is connected to a backup power supply, must have a disconnecting device to separate it from PG&E’s system. Power units are to have the communication company’s name and emergency phone number on them.

6. Antennas: Antennas must have an ownership label with a contact number, site identification information, and a disconnect switch which will shut off RF transmission. The disconnect switch is to be used when it is required as part of the normal or emergency shutdown protocols required in G.O 95, Rule 94.

7. All materials noted as “Communication” shall be furnished and installed by the requesting communication company.
Streetlight Pole Foundation

8 The foundation must be poured in place. Concrete shall be poured directly against the soil. If casing is used, remove the casing as concrete is placed.

9 Concrete shall have a minimum compressive strength of 4000 pounds per square inch in 28 days.

10 Verify all dimensions and any existing elements in the field prior to starting work.

11 Pipes and sleeves shall not pass through structural members except as shown in Figure 13.

12 Steel items other than reinforcing steel bars shall be hot-dipped galvanized in accordance with ASTM A153.

13 Headed reinforcing steel bars, per HRC 555 or equivalent, shall be used.

14 Use non-shrink grout that meets ASTM C1107 requirements. Grout shall have a minimum compressive strength of 5000 pounds per square inch when mixed to the flowable condition.
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

*Fiber may be installed through the PG&E splice box

Figure 1 – PG&E Steel Streetlight Pole with Attachments
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Table 1 Bill of Material to be Furnished and Installed by PG&E

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Street Light Pole with Antenna Provisions</td>
<td>See Table 3</td>
</tr>
<tr>
<td>2</td>
<td>#6 Al Duplex Street light service</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>#6 Cu 600 V for communications service</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>SmartPole Meter</td>
<td>M241490</td>
</tr>
<tr>
<td>5</td>
<td>Photo Cell</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Luminaire</td>
<td></td>
</tr>
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Table 2 Bill of Material to be Furnished and Installed by Communication Company

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Breaker Box/Load Center</td>
</tr>
<tr>
<td>8</td>
<td>#12 Cu 600V (Hot, Neutral, Ground)</td>
</tr>
<tr>
<td>9</td>
<td>#2 Cu 600 V Ground</td>
</tr>
<tr>
<td>10</td>
<td>Micro Maxcell Innerduct or equivalent</td>
</tr>
<tr>
<td>11</td>
<td>Radios or relay units</td>
</tr>
<tr>
<td>12</td>
<td>Fiberglass Shroud</td>
</tr>
<tr>
<td>13</td>
<td>Diplexers</td>
</tr>
<tr>
<td>14</td>
<td>Terminal Block/Splice Connection</td>
</tr>
<tr>
<td>15</td>
<td>Hoist Grip for cable support</td>
</tr>
<tr>
<td>16</td>
<td>RF Sign</td>
</tr>
<tr>
<td>17</td>
<td>0.5&quot; Coaxial Cables</td>
</tr>
<tr>
<td>18</td>
<td>Shutoff Sign</td>
</tr>
<tr>
<td>19</td>
<td>Ground Rod</td>
</tr>
<tr>
<td>20</td>
<td>Antenna</td>
</tr>
<tr>
<td>21</td>
<td>Fiber from communication network</td>
</tr>
<tr>
<td>Material Code</td>
<td>Style / Post Height</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>M150392</td>
<td>Steel / 26 Ft.- 6 In.</td>
</tr>
<tr>
<td>M150393</td>
<td>Steel / 26 Ft.- 6 In.</td>
</tr>
<tr>
<td>M150395</td>
<td>Steel / 26 Ft.- 6 In.</td>
</tr>
<tr>
<td>M150396</td>
<td>Steel / 31 Feet</td>
</tr>
<tr>
<td>M150399</td>
<td>Steel / 31 Feet</td>
</tr>
</tbody>
</table>

**Note:** The base plate on these poles may be redesigned in the future and any stocked poles could become obsolete, therefore it is suggested a minimal quantity of poles should be stocked.
Figure 2 - Wiring Schematic
(by Communications Company unless note as by PG&E)
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 3 - Pole Top Detail
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 4 - SmartPole Meter

Figure 5 – 3-Pin Receptacle
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 6 - Wiring Diagram For 3-Pin Receptacle
NON EMERGENCY NODE SITE POWER SHUT DOWN PROCEDURES

1. FOR NON EMERGENCY/SCHEDULED POWER SHUT DOWN
   • CALL <INSERT NAME OF COMMUNICATION COMPANY AND PROVIDE PHONE NUMBER>
   • 24 HRS PRIOR TO SCHEDULED POWER SHUT OFF PROVIDE THE FOLLOWING INFORMATION:
     • SITE NUMBER IDENTIFIED ON SITE NUMBERING STICKER
     • YOUR NAME AND REASON FOR POWER SHUTOFF
     • PROVIDE DURATION OF OUTAGE
   • PULL DISCONNECT HANDLE TO "OFF" POSITION
   • POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES
   • NOTIFY <INSERT NAME OF COMMUNICATION COMPANY> UPON COMPLETION OF WORK
   • RESTORE POWER BY PLACING POWER DISCONNECT HANDLE IN THE "ON" POSITION
   • REINSTALL LOCK ON POWER HANDLE

2. EMERGENCY POWER SHUT OFF
   • CALL <INSERT NAME OF COMMUNICATION COMPANY AND PROVIDE PHONE NUMBER>
   • PROVIDE THE FOLLOWING INFORMATION:
     • SITE NUMBER IDENTIFIED ON SITE NUMBERING STICKER
     • YOUR NAME AND REASON FOR POWER SHUTOFF
     • PROVIDE DURATION OF OUTAGE
   • PULL DISCONNECT HANDLE TO "OFF" POSITION
   • POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES
   • NOTIFY <INSERT NAME OF COMMUNICATION COMPANY> UPON COMPLETION OF WORK
   • RESTORE POWER BY PLACING POWER DISCONNECT HANDLE IN THE "ON" POSITION
   • REINSTALL LOCK ON POWER HANDLE

Figure 8 - Shut Down Procedure Sign
NOTE: All street light, power, and communication cables are to be isolated using Micro Maxcell Innerduct throughout the pole.
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 11

ILSCO PBT-2-1/0 MULTI TAP TWO SIDED TERMINAL CONNECTOR
(FOR CONDUCTOR SIZES 14-1/0 AWG)
Street Light Pole Details

Material Specifications:
- Shaft – Steel of 48 K.S.I. minimum yield after fabrication
- Baseplates and flanges – ASTM A-36
- Pipe – ASTM A-53 GR. “B” or A-500 GR. “B”
- Anchor Bolts – ASTM F-1554 GR. 36

Manufacturing Process
- Butt Welds – Ground flush with base metal
- Longitudinal Welds – Butt weld by electrical resistance weld process
- Circumferential Welds – Butt weld with permanent back-up ring

Finish Coating
- Structure – Hot dip galvanize per ASTM A-123
- Hardware – Hot dip galvanize per ASTM A-153

Design Criteria
- Structure and Hardware – In accordance with AASHTO 2001, Specifications for Structural Supports of Highway Signs, Luminaires and Traffic Signals
- Welding – In accordance with AWS D1.1

Orientation – See Detail H

Note: The base plate on these poles may be redesigned in the future and any stocked poles could become obsolete, therefore it is suggested a minimal quantity of poles should be stocked.

Table 3B - Pole Data
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

<table>
<thead>
<tr>
<th>LUMINAIRE ARM DATA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ARM LENGTH &quot;E&quot;</td>
<td>END O.D. X BASE O.D. X THICKNESS</td>
</tr>
<tr>
<td>4'-0&quot;</td>
<td>2.38&quot; x 3&quot; x .120&quot;</td>
</tr>
<tr>
<td>6'-0&quot;</td>
<td>2.38&quot; x 3.5/16&quot; x .120&quot;</td>
</tr>
<tr>
<td>8'-0&quot;</td>
<td>2.38&quot; x 3.11/16&quot; x .120&quot;</td>
</tr>
</tbody>
</table>

Table 4 - Arm Data

Figure 12 – Street Light Pole with Antenna Provisions
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

Figure 13 – Foundation – Elevation View

Figure 14 – Foundation – Plan View
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

**COUPLING DETAIL**

1 1/2" COUPLING

1/2-13 UNC X 1 1/4" CAP LG.
HEX HEAD CAP SCREWS WITH PLAIN AND LOCK WASHERS

**ARM CONNECT DETAIL**

4" 1/4" ARM ATTACHMENT

**SHAFT TOP DETAIL**

4 1/4" DIA CUTOUT

PL 3/4" X 10" DIA

**ORIENTATION**

(4) 7/16" DIA HOLES FOR SECURING ANTENNA MOUNT, 8" BOLT CIRCLE.
Service to Communication Equipment on PG&E Owned Steel Streetlight Poles with Antenna Provisions

DOCUMENT APPROVER

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INCLUSION PLAN

This information will be included in the appropriate documents in the 2018 update of the Overhead Construction Manual.